FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JULY, 1951

Fire Fighting Units Set Up Water Screen at Bomb Defense Mobilization Demonstration at Utica, N. Y. (Article in This Issue)

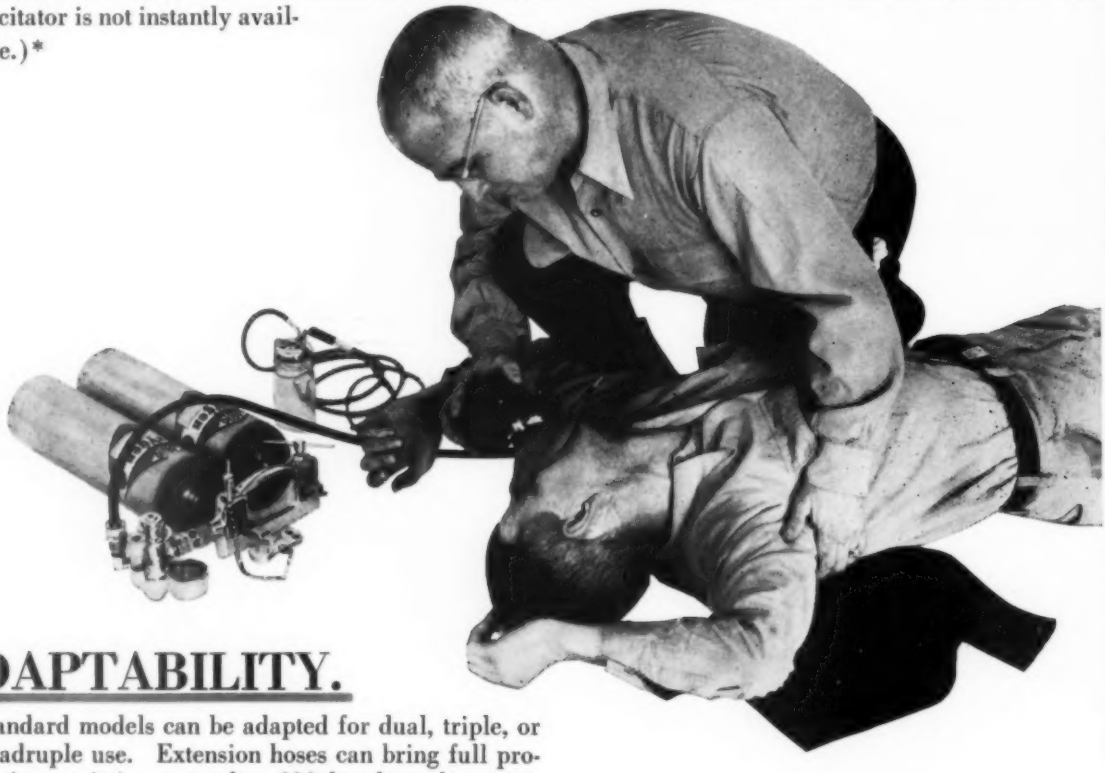
A CASE - SHEPPERD - MANN PUBLICATION

These Advantages Add Up!

SIMPLICITY. In breathing emergencies speed saves lives, and simplicity means speed. Emersons have it.

SAFETY. No instance has ever been recorded of injury from the gentle pressures used. Since approval by the American Medical Association in 1942 thousands of cases have been treated, all safely, including adults, children, and even newborn babies. An important safety factor is the suction phase, which gives vital aid to the circulation by helping the heart to fill normally.*

EFFECTIVENESS. Extensive medical research has found immediate positive-and-negative resuscitation to be the most effective life-saving measure in asphyxial emergencies. (Manual artificial respiration, however, should be used as first aid, if a resuscitator is not instantly available.)*



ADAPTABILITY.

Standard models can be adapted for dual, triple, or quadruple use. Extension hoses can bring full protection to victims more than 400 feet from the parent machine. Manifolds are available for Civil Defense protection.

Write for circular on the newest models.
**Write for free bulletins "Medical Reference on Resuscitation" and "A New Manual Method of Artificial Respiration."*

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Can Help You Save Lives

J. H. EMERSON CO.

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Kenworth truck, a Class A 1250 gallon triple combination. Equipped by Howard Cooper Corp. of Portland, Ore., with Hale ZMHD pump, 2400 ft. hose carrying capacity . . . equipped with the finest all-direction flashing light and powerful siren—by FEDERAL, of course!

With the Federal Coaster Siren and the Federal Beacon-Ray Flashing Light you have the *proven-best* way to get your fire apparatus to the blaze without delay. Only the Federal Beacon-Ray flashes 360-degree protection—visible from all sides! And the Federal Coaster Siren maintains the extra-loud, persistent signal that demands the right-of-way a mile ahead!

The best fire apparatus in the world is useless if it arrives too late. Get your equipment there as *fast* as possible with Federal. Write today for bulletin.

Specify FEDERAL SIRENS and LIGHTS FOR *ALL NEW EQUIPMENT*

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

ORCHIDS!

LAST May, seventy-nine pieces of fire apparatus were dispatched to Utica, N. Y., from eight counties, some of the equipment traveling over 120 miles, to fight a simulated atomic bomb conflagration.

● Not only did these forces go the entire distance, but they engaged in large scale pumping operations, once on the "fire ground."

● All this was accomplished without breakdown or serious mishap to a single unit, we are told, notwithstanding the fact that practically all units were manned by volunteer officers and men.

● It seems to us this is an occasion for orchids—orchids to those who planned the whole Utica fire defense program; to those who participated in it, including paid and volunteer firemen; and last but not least, to the manufacturers of the fire equipment used in the incident.

● Not all of this responding apparatus was of late vintage. But it all got there; it did its stuff—and it returned home with its crews, in good order.

● Such an accomplishment we maintain, augurs well for the nation's fire defense!

The Publishers

FIRE ENGINEERING

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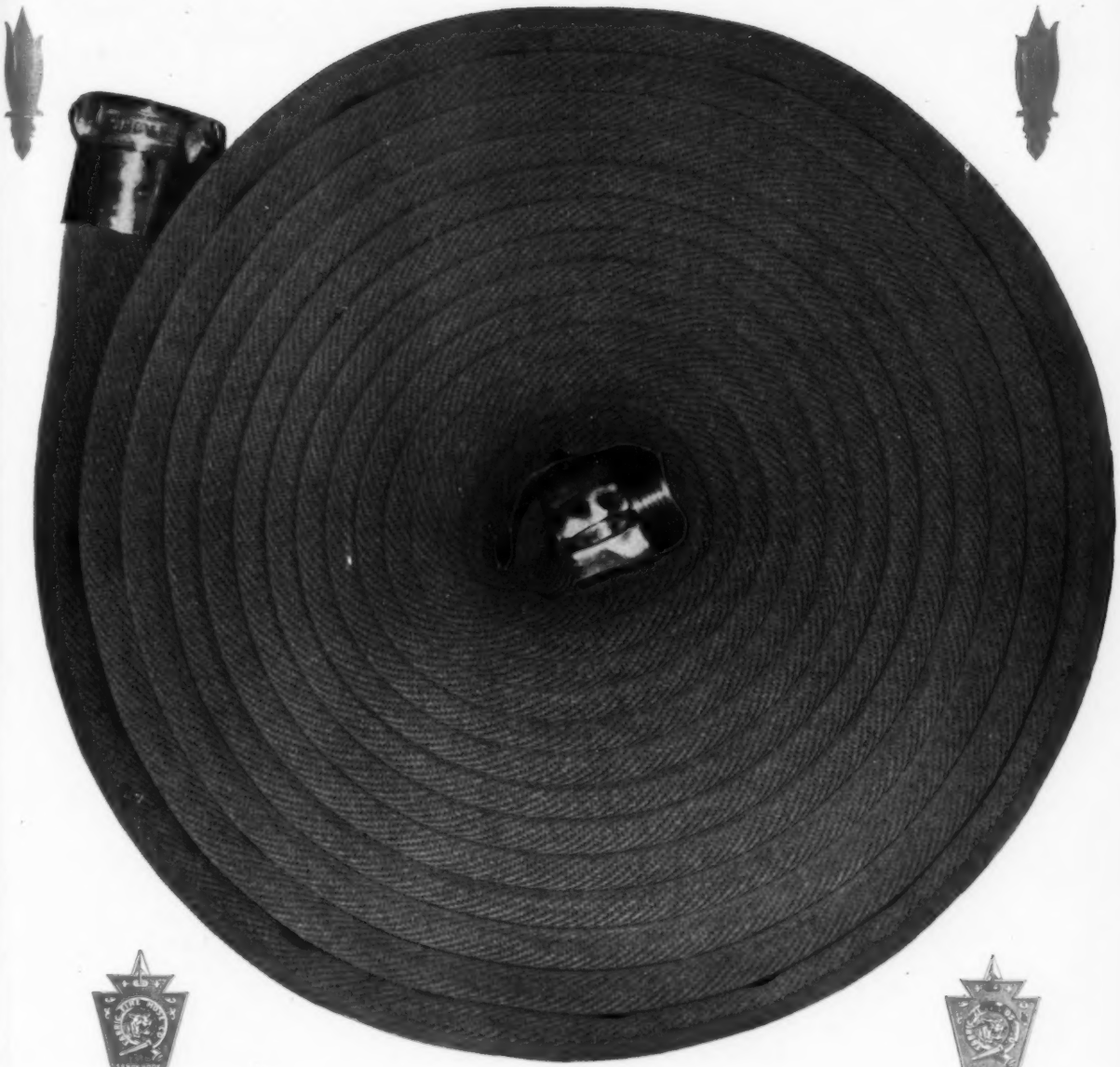

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4 Children Are Saved From Fire
PALO ALTO — The Li
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new
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SNOHOMISH, March 27—After
automobile driven by D
van off the
Resuscitator to Aid of Youth
The resuscitator squad of the
and fire department Sun-
noon was called
of Rich
Resuscitator Saves Elgin Girl's Life
ELGIN—The Elgin fire
men's new
with savin
many week
The
Police Revive Asphyxiated Children
Resuscitator Saved Babe's Life
months old daughter of Mr.
of Rigby, was
RESUSCITATOR USED TO AID 4-YEAR-OLD GIRL
Small Michaels
Resuscitator Squad Saves Ripon Boy
RIPON, May 8—The Resusci-
tator squad of the Ripon Volun-
teer Fire Department is credited
today with saving the
year-old
Tots Overcome By Deadly Fumes, Both Revived
Idaho Falls firemen were
summoned late Saturday morn-
ing to revive a four year old
boy overcome by carbon mon-
Fire Crew Revives 7Week-Old Local Girl
A fire department resuscitator
assisted lat
Kelso Family Of 6 Misses Death By Asphyxiation
A Kelso couple and their fou
young children brushed death la
Saturday night when
by over-
come by carbon
fumes
Firemen Praised For Saving Child
Story of how two Oregon
men used a resuscitator to sa
life of a 22-m
baby
told this week in a letter of
ation written by the child's
the
department
the

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Stands higher pressures—tested to 600 pounds

FOR years engineers have been searching for a stronger, lighter fire hose cord. A new chemically-produced fiber has now been designed—especially for fire hose. Not affected in any way by moisture, mildew, mild acids or alkalies. Used in new Fire King hose as the cords that go *around* the hose and carry the load under pressure.

Stands higher pressures—In actual laboratory tests, Fire King hose—with the new cord—was found to be 50% stronger than standard hose. Every length of Fire King fire hose is tested to 600 pounds pressure.

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End protection—Fire King (2½" size only) has the exclusive patented B. F. Goodrich end protection—an extra ply of hard woven cords extending 12" from the coupling. Adds 100% more strength to coupling area. Not one single length of B. F. Goodrich fire hose with end protection has ever failed in the coupling area.

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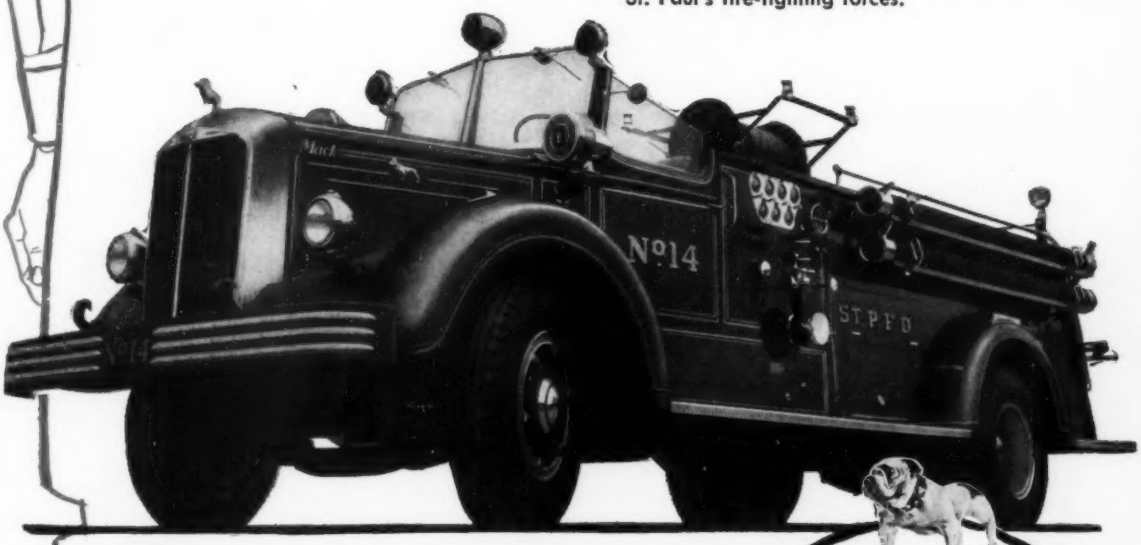

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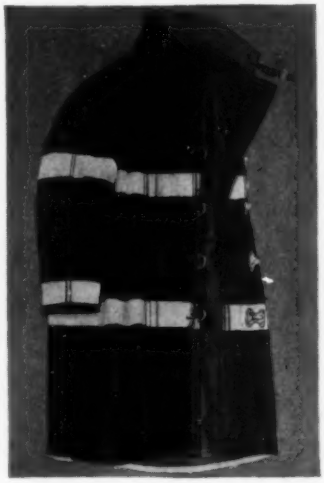
THE Original

Mackinaw Striped Safety Coat

Reduces Accidents — Saves Lives



Several years ago, Midwestern developed the *original* striped safety coat. The highly visible stripes are moulded to and vulcanized as part of the material. Thousands of Midwestern Safety Coats are serving fire departments throughout the world. Service records prove that these garments not only offer high safety visibility, but have the qualities required to withstand the rough usage required in your hazardous work of protecting life and property against fire.

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• SERVICE

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Manufacturers of the Famous **MACKINAW Coats**

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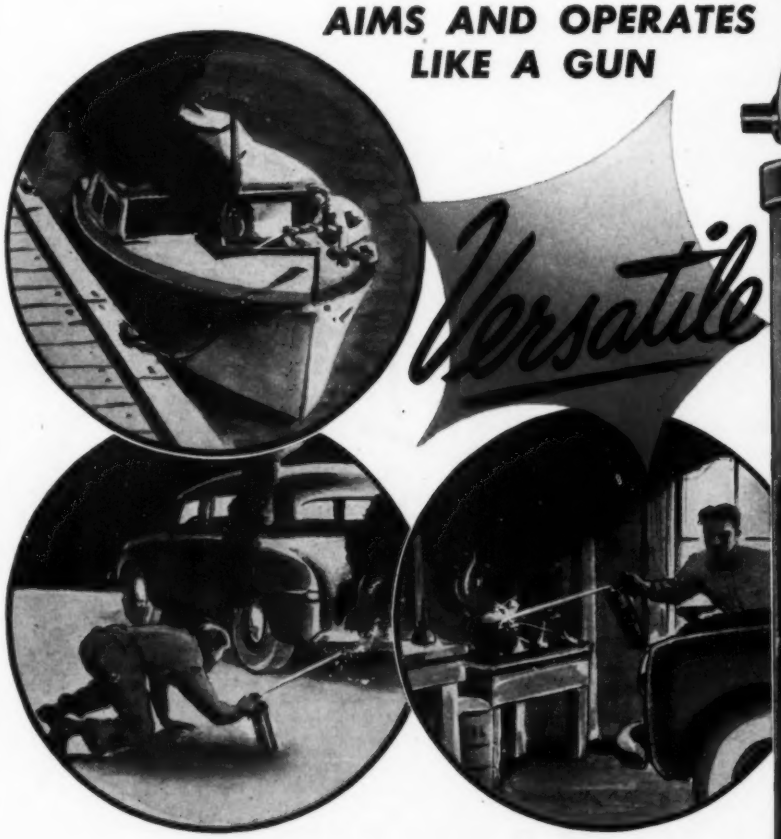

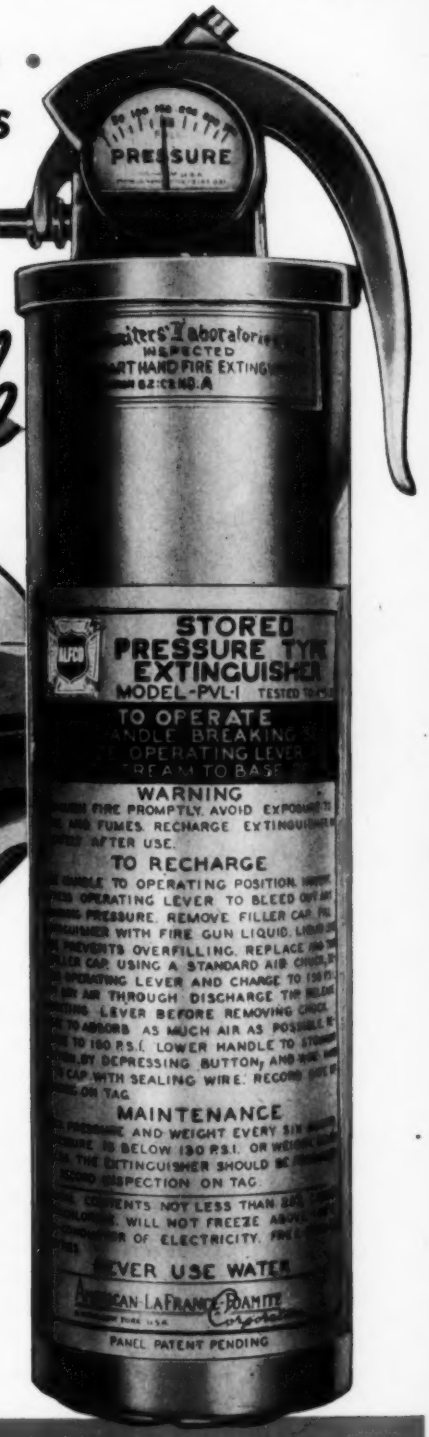

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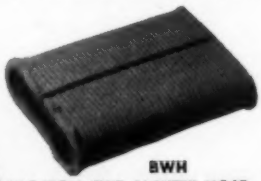

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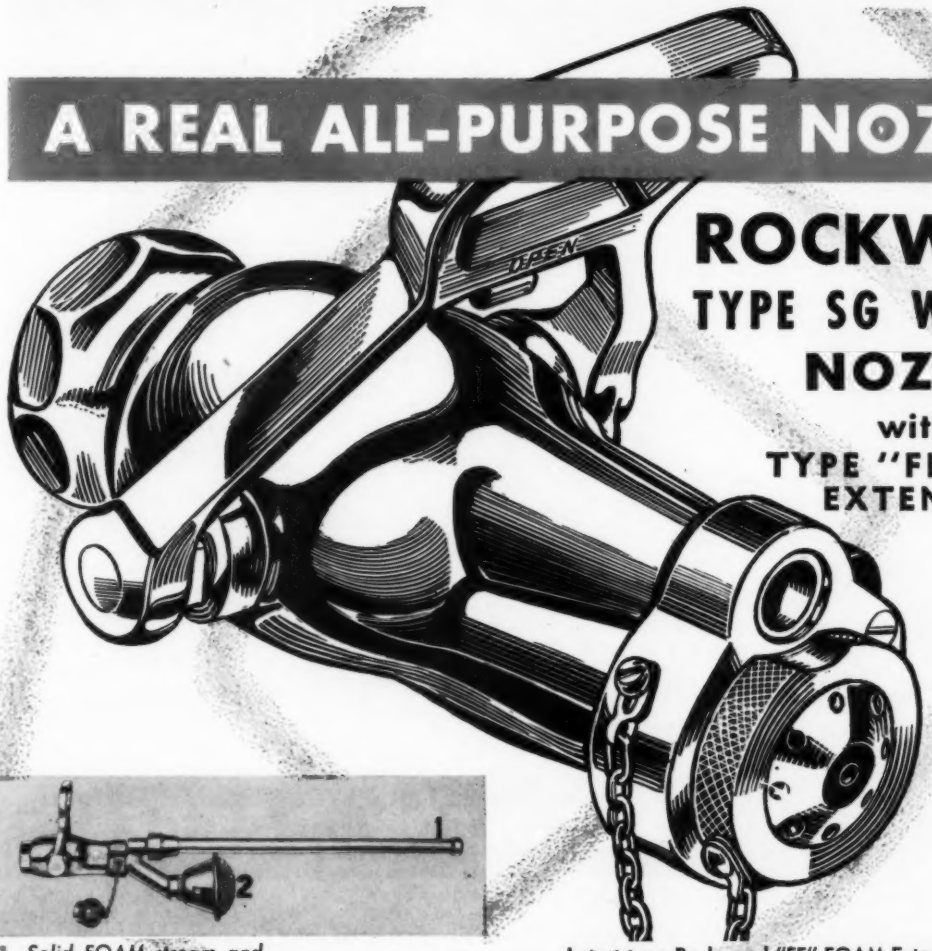

ROCKWOOD TYPE SG WaterFOG NOZZLE with TYPE "FF" FOAM EXTENSION

1 *Solid FOAM stream and*
2 *FogFOAM from "FF" FOAM extension inserted in type SG WaterFOG Nozzle.*

3 *High Velocity WaterFOG.*

4 *Straight water stream.*

5 *Low Velocity WaterFOG from extension applicator.*

Latest type Rockwood "FF" FOAM Extension unit makes possible *5 different kinds of discharge* from only one type SG WaterFOG Nozzle — (1) solid FOAM stream (2) FogFOAM (3) high velocity WaterFOG (4) solid water stream (5) low velocity WaterFOG.

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ROCKWOOD SPRINKLER CO.
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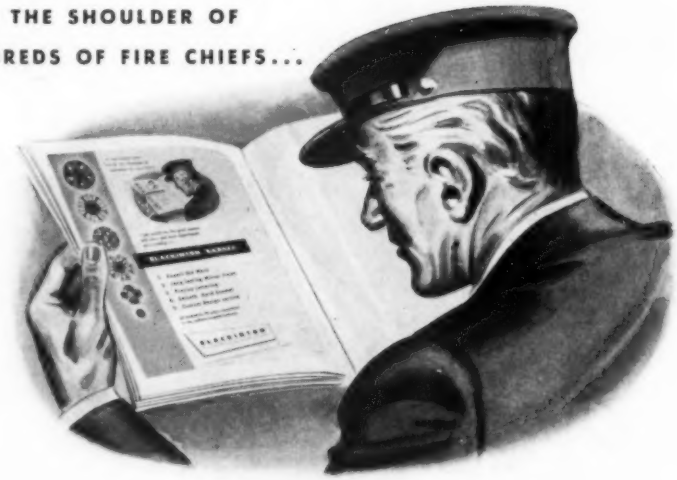

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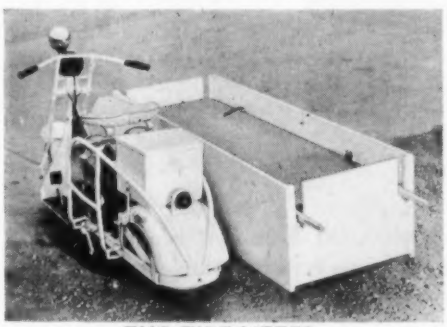
YOU'RE THERE WITH THE....

THE FIRE-SQUELCHER

Cushman FIRE AND AIR RAID UNITS

A CUSHMAN chassis is the latest, most effective and most economical vehicle on which to mount fire protection equipment. We illustrate three applications of CUSHMAN machines for fire fighting and emergency requirements.

THE FLOOD-LIGHTER



THE FIRE-LITTER

THE FIRE-SQUELCHER—A CUSHMAN three-wheeler with 2000 watt floodlighting equipment on the front platform, plus an additional 55 gallon per minute independently powered pump. Extra hose, acetylene tank, CO_2 tank on rear. Light metal framework carries suction hose and 24 foot aluminum or magnesium ladder. A stable, maneuverable machine, capable of 25 miles per hour, approximate load capacity, 600 pounds.

THE FLOOD-LIGHTER— A CUSHMAN three-wheeler with extra large front, with capacity of up to ten cubic feet to carry various types of emergency equipment, including a half dozen flood lights operated by a 2000 watt generator.

THE FIRE-LITTER— A CUSHMAN two-wheeler with litter type side car; small, fast, compact, ideal for emergency application. Litter can be removed for special pickup, or messenger work or deliveries.

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DEALERS in fire fighting equipment and all interested buyers are invited to inquire regarding equipment for their special needs.

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FOR
FIRE
OPEN
PULL DOWN HOOK
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FIRE
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JULY, 1951

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With the Editor

No "Dry Run" This! On May 26 the State of New York staged what has been called the biggest and most realistic test of civil defense measures against an atomic attack, when the industrial city of Utica was supposedly the "target", suffering over 60,000 casualties, and calling into action more than 600 firemen from eight counties, as well as some 2,000 civil defense volunteers workers.

The details of this incident, the first in which fire forces from a large area were actually moved many miles to the relief of a stricken city, are told later in this issue of FIRE ENGINEERING. It is an account well worth reading.

There are many conclusions to be drawn from this mock attack, not the least being the complete confounding of all those who said of such an extensive and ambitious program "it can't be done!"

What is of particular interest are the numerous reports of official and other observers of the incident, from all branches of civil defense, the armed forces and other government 'brass' and the press and radio, of the part played by the fire service.

As the *Utica Daily Press* said editorially: "In general, these firemen gave the impression of being the most efficient and best trained among the participating groups." And the *Utica Observer-Dispatch*: "Although the defense forces played an important part in the giant exercise, with sample, coordinated rehearsals of all the major defense divisions, it was the firemen who stole the show!"

As we see it, the exercise convincingly demonstrated one fundamental of civil defense which this Journal has expounded without end, that the heart of efficient civil defense must be the regular, well trained and equipped municipal emergency services such as fire and police.

We understand this ambitious Utica test was inspired by the Bureau of Fire of the State Division of Safety, which was established by Governor Thomas E. Dewey only two years ago to perfect firemen's training and mutual aid on a statewide plan, to determine the possibilities and limitations of fire defense on such an extreme basis.

Certainly the Utica "trial run" provided much valuable information, which the Bureau of Fire is using to further develop its plans for fire defense on an even greater scale. Further information will doubtless be provided by the second large scale test scheduled for the Niagara Falls area, the middle of June, and for other anticipated state and county exercises.

It seems to us there is a pattern here which might well be followed elsewhere. True, not every state has the same fire defense set-up on the state, county and area basis enjoyed by New York, with its State and County Fire Advisory Boards, County Fire Coordinators and favorable regulatory measures on all levels to support comprehensive fire defense, but there is no reason why the fire services of this nation, within and outside of target areas, cannot get fire defense mobilization plans down on paper and, later, with or without the aid of civil defense, conduct similar "trial runs."

New York, like other regions of the nation, is finding out that this sort of preparedness is a mighty good thing to have ready and waiting, even though it may only be called upon to function on lesser emergencies and practice runs. The stimulation it brings to the fire service cannot help but have favorable repercussions in all those communities that are part and parcel of the program.

Fred Shepperd

Utica Atomic Bomb Defense Test Proves Value of Planned Mutual Aid

Radio a Big Factor in Mobilizing 600 Firemen From Eight Counties as Fire Fighters Steal C. D. Show

A SPECIAL REPORT

Editor's Note: The details upon which this report of the first truly full-scale area fire defense operation to be held in this country is based were furnished by the Bureau of Fire Mobilization, Division of Safety of the State of New York, under whose direction the entire fire defense program was planned and carried out.

The editors desire particularly to thank Thomas Ryan, Director, Division of Safety; Palmer Harcourt, Deputy Director; B. Richter Townsend, Chief, Bureau of Fire Mobilization; and several of the Bureau's field representatives, particularly Roswell Pooler, under whose direction many of the details of the Utica test were worked out.

Appreciation is also expressed to the State Office of Civil Defense, Col. Laurence Wilkinson, Director, and his deputies for their assistance.

As this report is prepared, the second outstanding full scale fire defense rehearsal has just been completed in the Niagara Falls-Buffalo, N. Y., area. Although larger in some ways than the initial Utica experiment, it is said that "Operation Niagara" by comparison with the Utica test, demonstrated the vital importance of modern two-way radio communications for the exclusive use of the fire service.

The State of New York reportedly will continue these area civil defense atom bomb raid drills, possibly winding up with a super-mobilization when a simulated attack lays New York City low.

THE City of Utica, N. Y., claimed the headlines when, on May 26 last, it became "Hiroshima" for six action-packed hours, as two thousand civil defense volunteers sparked by over 600 firemen from eight counties, staged a spectacular, yet somber, rehearsal of what might happen should World War III eventuate.

According to the State's Bureau of Fire Mobilization of the Division of Safety, the test marked the implementation of New York's plan to organize the 1,587 fire departments of the state into one homogeneous unit in time of large scale emergency.

The test, believed to be the first large scale fire defense operation within a target area in the nation, was conducted by the State's Bureau of Fire under the direction of its chief, B. Richter Townsend, with the cooperation of the City of Utica Fire Department, headed by Fire Chief Leo R. Barry. The Utica experiment was the first large scale demonstration of the State's mutual aid plan which developed from blueprint stage with the growth of the Bureau of Fire of the Division of Safety, following its inception by Governor Thomas E. Dewey in 1948. At that time two definite objectives were set for the Bureau: (1) a standard statewide fire training program, and (2) a statewide mutual aid plan.

Photo Courtesy Utica Observer Dispatch

Firemen bring hand lines into operation in Utica test.

In addition to heavy streams forming a huge water curtain (see cover) numerous hand lines were massed to confine simulated fire in old factory buildings. Most of the lines shown here are supplied by relays.

In order to reach these objectives, New York enacted legislation setting up county fire coordinators and fire advisory boards in each of the state's 55 counties, permitting the county officials to spend money locally for promoting fire protection. County fire instructors, appointed and paid by the state, conduct the training courses.

In order to effectuate mutual aid at top efficiency, a county fire control center was urged for each county, where proper facilities of personnel and equipment were possible for the speedy and orderly dispatching of fire apparatus to areas in need of additional assistance to cope with large fires or other emergencies. These control centers were established under the supervision of the county fire coordinators. As soon as they were in full operation, they were to become a part of a larger plan of operation involving consolidation of counties into a state-wide mutual aid plan.

Although the prime function of this statewide program is to provide fire chiefs in the five or more large target areas of the state with the reinforcements they will need in the event of enemy bomb attack, the system is designed to afford systematic aid to any area or community in time of disaster of any kind. To that end all possible efforts are being made to establish the 24-hour dispatching service in every county in the state, regardless of its size or number of fire departments. This objective has nearly been reached and it was primarily to determine the advantages

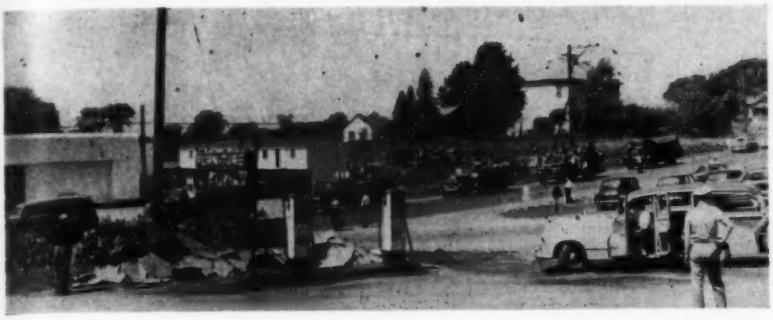


Photo by William Every

Incoming apparatus halts at New Hartford "aid check point."

Responding fire companies were ordered to rendezvous at designated civil defense "check points" such as this at the junction of Routes 5 and 5A, from whence they were dispatched to the fire ground. Note fuel tanker in attendance.

and limitations of such large scale mutual aid operations with existing setups that the Utica incident was held. And in order to give it fullest weight, the operation was conducted as one act of a full scale civil defense performance, designed to be as near a full dress rehearsal of a real atom bomb attack as possible.

Although the incident brought into play all the area civil defense forces as well as the defense planning of the Bureau of Fire mobilization and a large part of the fire forces of eight neighboring counties, it was freely admitted by the judges and witnesses that the latter stole the show.

The original plans called for the "bombing" of the busy industrial city of Utica (pop. 101,479, 1950 census) situated in Oneida County (pop. 222,000) at 9:00 A. M.

With scores of firemen in the county and adjacent areas standing by their apparatus; hundreds of civil defense volunteers ready to jump into action, and thousands of Oneida County citizens set to take cover with the first blast of the sirens, it was actually 9:12 before the signal touching off the mobilization was sounded.

The 12 minute delay was due to a misunderstanding in the chain of command, but once Utica's Fire Chief, Leo Barry, had cleared the confusion over whether civil defense or Army Air Forces were to sound the alert, Utica Fire Dispatcher, Edward Rothenberg, on orders of the Chief, touched off the dozen sirens in the city, setting in motion the fire defense forces and other civil protection machinery that functioned with but little friction for the next four hours.

Upon the sounding of the all-clear signal at 9:23 A. M., Chief Barry dispatched the department's No. 2 water tower to Broad street, foot of Mohawk street. Two of the department's pumpers, No.'s 5 and 3, theoretically all that was left of the city's fire forces available for duty, were also sent to the same location to operate with the tower.

At 9:24 A. M. Chief Barry, having sized up the area supposedly involved in the serious fire (the site of the Oneida Knit plant), used his two-way radio to call the Oneida County Fire Coordinator, Ward Bohner, at fire headquarters, requesting the mutual plan of the county be put into effect. For the past several years Oneida County has been operating under a mutual assistance pact, with the City of Utica as the focal point of the 24 or more county fire departments. About a year ago all these fire forces were joined in what was the first all-county fire service radio network in the state. One of the reasons Utica was selected for the first large scale state-directed civil defense exercises was to test out the county's radio communications facilities.

The fire defense plans called for the response of 24 Oneida County Fire Companies to the City of Utica over predetermined routes in groups of units, under escorts. After ordering out the county aid, Coordinator Bohner notified the Oneida County and City Civil Defense Directors at the Oneida Civil Defense Control Center, of the action he had taken.

The first of the 24 fire companies in Oneida arrived at 9:32 A.M. at a road block that had been constructed of several dozen old automobiles, on Park avenue between Jay and Oriskany streets. During the next 12 minutes additional apparatus reached this scene, where they were stalled until at 9:50 A.M. a public works bulldozer reached the location and cleared away the abandoned cars, letting the fire apparatus through.

At 9:34 A.M., Chief Barry placed a second call for additional fire forces with Coordinator Bohner, via radio from his car at the corner of Broad and Mohawk. The latter relayed these calls to the bordering counties immediately surrounding Oneida County. These counties, and the number of units of apparatus they assigned under the out-of-county mutual aid arrangement were as follows: Herkimer (9 companies); Madison, (6 companies); Oswego (9 companies), and Otsego, (5 companies). The Coordinator also informed the County Civil Defense Directors of the action taken. The fire coordinators in the above counties, after dispatching the required fire apparatus notified the County and Civil Defense Directors of their Counties of action taken.

As in the cases of the Oneida County responding forces, these additional units followed prescribed primary routes, obeying the speed limitations set down by the program (not to exceed 35 M. P. H.) and rendezvoused at pre-determined "aid check points". It should be mentioned in passing that police escorts were provided most of the responding units which rolled in groups of 4 to 6 vehicles, each unit manned by approximately 8 men and officers.

At 9:35 A.M., Chief Barry placed a third call for still more fire apparatus with Coordinator Bohner, using his regular fire car radio. It was assumed that these units would be needed to fight flash fires caused by the heat of the bomb.

At this stage, having exhausted all normal neighboring sources for fire force mutual aid to the City of Utica, Coordinator Bohner put through a call for assistance to the State Division of Safety, Bureau of Fire Mobilization and Control, in Albany, requesting additional help. The problem of providing protection for the theoretically bombed city was now deemed to be the responsibility of the state.

The Bureau then put through a call (land wires) to the Fire Coordinator of Jefferson County, on the St. Lawrence River and Lake Ontario, with headquarters at Watertown. The dispatch of 23 companies from this area to Utica was requested. Following receipt of this message, the Jefferson County Coordinator ordered out the companies, and notified his County Civil Defense Director of the action taken. Some of

Photo by William Every

Fire Chief Leo Barry uses radio to direct operations.

The Utica test demonstrated the importance of the fire forces having their own modern radio, independent of police or other services, in meeting large-scale emergencies. Here Chief Leo Barry of Utica and aides at emergency communications headquarters, direct movements and operations of over 600 firemen, manning nearly 80 pieces of equipment.

these Jefferson County units would have to travel over 120 miles to reach the city.

The routes taken by these various responding companies were as follows:

HERKIMER COUNTY: Route 5-S to easterly Utica line at Broad and Turner streets where units were met by a fire escort under Lieutenant Leroy Brown, Utica Fire Department.

MADISON COUNTY: Over Route 5 to New Hartford, N. Y. "Aid Check Point" where they were met by Lieutenant James Moran, of the Utica Department.

OSWEGO COUNTY: Over Route 5 from Vernon, N. Y. to "Aid Check Point" to await further assignment by Lieutenant Moran.

OTSEGO COUNTY: Via Route 8 to Washington Mills, N. Y., stopping at "Aid Check Point" and locate there to await assignment. Escorts provided by Fire Lieutenant Charles Girvan.

JEFFERSON COUNTY: Over Route 12 to Engine House No. 12, Utica Fire Department, just inside the City limits, reporting to Fire Captain J. O'Hare for assignment.

As a sample of how the mutual aid companies reported in, it is only necessary to describe those of Oneida County. They responded to the "Check Points" in 5 groups as follows:

Group A—Whitesboro, New York Mills, New Hartford, Clinton and New Hartford Squad (all ordered direct to Utica from Yorkville but the Squad unit reported for communications duty at Trenton)

Group B—Durhamville, Sherrill, Vernon, Verona, Oriskany Falls, Deansboro, Oriskany Falls Ambulance (all dispatched direct to City from Route 5)

Group C—Unadilla, West Winfield, Bridgewater, Sauquoit and Willowvale Squad (all dispatched direct to City from Route 8)

Group D—Holland Patent, Remsen, Prospect, Barneveld and Boonville Station Wagon. (Units to stop at Junction of Routes 12 & 8 to form convoy, then, proceed direct to Utica)

Group E—Camden, Taberg, Rome and Sylvaz Beach Ambulance. (Reporting direct to Utica from Yorkville)

By 9:55 A.M., relay groups of fire pumpers had been assigned locations and hose lines were being placed in operation on Broad street between Gilbert street and Third avenue.

At 10:10 the water tower was in operation in front of the old Giblin Foundry at the corner of Broad and Mohawk street.

Photo by William Every

Radiological teams check on contamination for fire fighters.

A team equipped with Geiger counters moving north on Mohawk toward Broad street. State civil defense officials in civilan clothes accompany them as observers.

LOG—STATE FIRE CONTROL
Albany 5-7302—May 26, 1951

TIME	FROM WHOM RECEIVED Location	Dispatcher	INFORMATION	ACTION TAKEN
9:44	Oneida Co. Fire Control	Weimer	Requested the assignment of 23 engine companies for support of Utica Fire Defense. Departments to report to Captain J. O'Hare, Engine #10, Utica, N. Y.	
9:45	State Fire Control II To	Sheriff Peck	Watertown #118 requested Jefferson County Mutual Aid assignment of 23 engine companies to support Utica in the Fire Defense Plan, and in accordance with their out-of-state Mutual Aid running chart.	
9:45	Jefferson Co. Fire Control	Peck		Confirming request of Oneida Co. for assistance, and advising of the dispatch of 23 engine companies in accordance with their pre-arranged plan for use in county Mutual Aid.
9:51	State Fire Control To	Bohner, Fire Coordinator, Oneida Co.		Advising him of the dispatch of 23 engine companies by the Jefferson Co. Fire Coordinator. Said dispatch to report to Captain O'Hare, Engine Co. #10, Utica, for orders.

Shortly before 10:30 A.M., Herkimer County's 9 companies reached the corner of Broad and Turner and, from there, were assigned under Lieutenant Roy Brown to form an 8-pump relay and fill in on other relays.

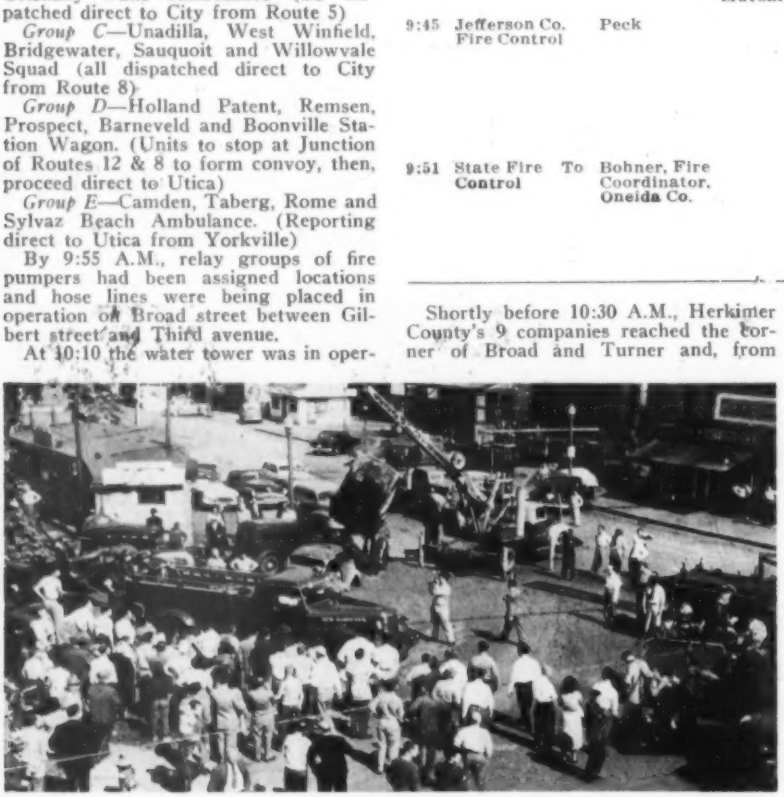


Photo Courtesy Utica Observer Dispatch

Fire apparatus begins to get through as wrecker breaks car block.

Incoming fire units, the nearest one shown from New Hartford, passing through Park Aveune road block formed of old cars, en route to fight Utica "atom" fires.

At approximately 11:00 A.M., Otsego County apparatus was awaiting assignment at Washington Mills whence they were dispatched to help make up a 9-pump relay and a 3-pump relay.

At about 11:00 A.M., Madison County's 6 fire companies were assigned from the New Hartford "Check Point" to set up an 8-pump relay, using a hydrant on Niagara street and tying up with other County units.

Between 11:48 and 12:00 noon, Otsego and Madison County units reached Broad street; Oswego County's 9 companies arrived at New Hartford for assignment and, 10 minutes later, were at Broad street; and the first of the Jefferson County equipment had reported in at Trenton for assignment, from whence they went to Engine 10's house in Utica.

At 12:25 P.M. some Jefferson County apparatus reached Broad street to go to work. Two of the companies were held in reserve; the others, with one exception, operated in relays. That exception was Watertown, which pumped into the water tower.

The attack plans originally called for apparatus to use the state Barge Canal

(*Continued on page* 522)

Fire Service Ladders and Their Use—Part XIV

Use of Ladder Pipes and Nozzle Reaction

By ROI B. WOOLLEY

Most of the data upon which this Chapter is based are taken from the files of FIRE ENGINEERING. The author has drawn also from Fred Shepperd's book, "Fire Service Hydraulics," and other works, as well as from material published by the National Board of Fire Underwriters and National Fire Protection Association.

Appreciation is again extended to the manufacturers of modern metal ladders for information and illustrations, some of which unfortunately cannot be reproduced for lack of space.

In submitting this Chapter, the author readily acknowledges its limitations; there is much more to the story of the use of ladder pipes than is told herein. Efforts have been made, however, to provide as much basic information on this subject as editorial limitations permit. Readers are invited to forward their own comments and contributions for possible later inclusion in the series of installments.

THE ladder pipe is nothing new to the fire service. Almost from the introduction of the first hand-raised wood aerial ladder, enterprising fire fighters capitalized on the opportunity such ladders afforded them to direct effective streams into the upper stories of buildings. However, many large cities having water towers were not as quick to employ ladder pipes on their aerials although under some conditions they operated hand lines from such ladders. They preferred to rely upon the conventional, more cumbersome water towers which were built for heavy stream appliances.

Meanwhile our British cousins were using ladder pipes as a matter-of-fact essential; FIRE ENGINEERING's readers whose memories date back some years, will recollect the pictures of the British firemen perched atop the extended all-metal "turntable" ladders, directing streams into fires.

Doubtless the advent of the metal aerial ladder in this country gave impetus to the broader application of the aerial ladder pipe. With the increased use of such ladders, so equipped, and better internal protection in our larger buildings, a number of cities placed their water towers in reserve or disposed of them altogether, relying almost entirely upon the more utilitarian, modern, metal power-operated ladder with its attachable ladder pipes.

The National Board of Fire Underwriters recommends a water tower or an aerial ladder pipe in places where five buildings are four stories or higher. It still recommends water towers for high-value districts having ten building six stories or higher.

Even using two ladder pipes on a modern aerial ladder (as practiced by a number of departments), limitations in the size of waterways in the average ladder pipe and inability of the supply line (3½ in., 3-in. or 2½ in.), to carry more than 800 to 1000 GPM without excessive pressure losses are claimed by some to limit the efficiency of the ladder pipe as a heavy stream appliance.

However it is generally agreed that the modern metal aerial ladder is ideally adapted to provide effective streams through 1¼ in. to 1½ in. nozzle tips at high elevations.

It is also the opinion of authorities who should know, that all aerial ladder trucks today should be equipped with a ladder pipe.

There are a number of excellent types of such devices to choose from, and during the past few years their efficiency has been greatly increased by reduction in weight, improvements in waterways, and better attachment facilities.

In all modern types of ladder pipes, the direction and elevation of the nozzle can be controlled from the ground or by a man on the ladder, making it possible to deliver effective streams into upper stories of structures, or to reach fire areas not accessible by any other means. Platforms can be easily provided on the flies of aerial ladders to accommodate nozzlemen, should it be desirable to operate ladder pipes manually from the extended ladders.

The practice in many departments is to carry a fixed ladder pipe at the upper end of the bed or main ladders section and to have available a portable ladder pipe which can, if desired, be quickly attached to the top fly extension. Both of these can be supplied by multiple lines, or single lines of 2½-in. to 3½-in. hose, using siamese connections. All departments however, it should be repeated, having modern aerial ladders, wood or metal, should have one or more ladder pipes for each ladder.

As is constantly evidenced in the pages of this Journal, ladder pipes may

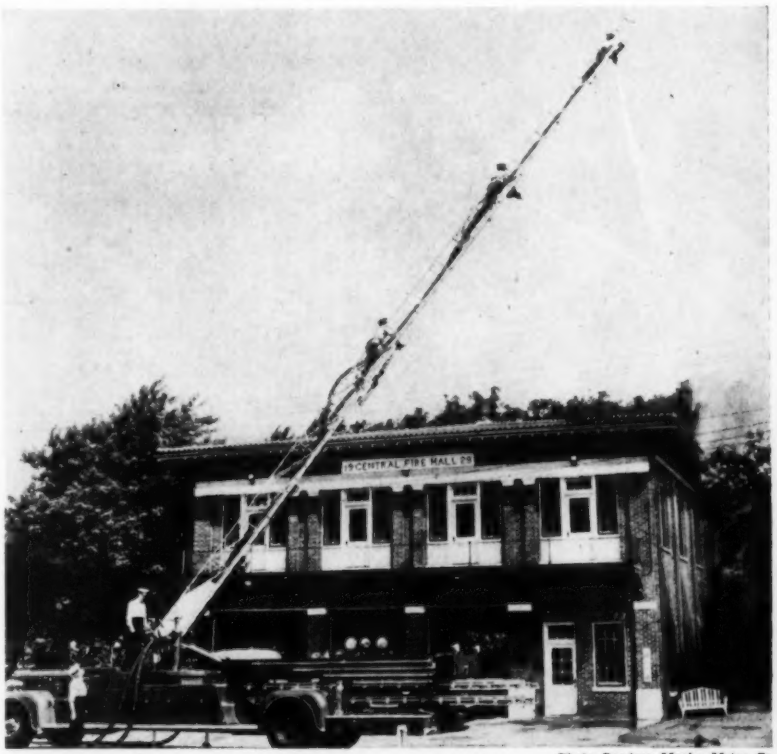


Photo Courtesy Maxim Motor Co.

Three good hand lines operated off aerial ladder.

Versatility of the modern aerial ladder, in this case a Maxim 75-foot model, to serve as a water tower is demonstrated by the Johnson City, Tenn., Fire Department, Chief Lester L. Geisler. Men, each belted to ladder, operate standard nozzles supplied by individual 2½-inch hose lines.

be effectively used on buildings of relatively little height, such as taxpayers, for example. They have been used effectively on lumber yard fires to break up head waves, set up water curtains, cool exposures, and blacken out fire spots by almost direct downward application. This broad application is sometimes overlooked by fire officers who conceive of their use only on tall buildings.

Ladder pipes on aerial ladders have also been used in combination with turret and deck pipes and deluge sets to provide large streams for setting up a strong defense against advancing fire. The possibilities of using ladders and deck pipes in such large scale defensive operations, generally has not been fully explored, although a number of progressive chiefs who have been giving serious thought to setting up adequate defenses against fires resulting from atomic attack, are experimenting with the idea of using multiple metal ladders, each mounting two or more ladder pipes, delivering straight streams and large volumes of water fog in conjunction with supporting and covering street lines of large caliber. Thus far their experiments have been inconclusive, primarily because it is impossible to measure the actual effectiveness of such defensive measures where there is no actual fire and calculations must be based entirely upon the volume of water discharged and the pattern of defensive curtain, or fog cloud created. Such tests as have been conducted do indicate, however, that by using modern multi-section metal aerial ladders with latest type ladder pipes, fed by proper size pumpers using adequate supply lines, a tremendous pattern of water defense can be created high in the air, with a volume of water that should absorb B.T.U.'s on a vast scale.

Still undeveloped, also, are the possibilities for using large fog nozzles or heads on ladder pipes. A few fire departments, such as Detroit, New Haven and Salinas, Kans., make regular use of the modern 500 G.P.M. fog nozzles on their ladder pipes. In Detroit, the ladders so equipped are located in the high value district. In Salinas, a ladder pipe equipped with jumbo fog nozzle on the ladder tip, and a ladder pipe fitted for straight stream operation, mounted on the bed or base section of the aerial ladder, are in regular use. In New Haven, tests have successfully employed two G.P.M. fog heads, on standard metal ladder pipes.

Notwithstanding these developments, and the increasing use of large fog nozzles and fog heads on ladder pipes, there is a dearth of factual evidence to provide the basis for sound conclusions.

Photo Courtesy Hubert Walker

Ladder deflection from nozzle reaction.

Just before a ladder failed in test to determine lateral strength. In test, pressure at tip directed at right angles to ladder, was gradually increased, resulting in increasing deflection under the nozzle reaction until ladder ruptured. Test resulted in some design changes to increase lateral strength (see Chapter X, second installment, March, 1951, of this series for more complete details).

Back Pressure and Nozzle Reaction

Although today the use of ladder pipes is fairly universal, there remains some uncertainty and misunderstanding on ladder pipe performance and limitations under varying conditions.

In some cases this is due to failure to appreciate the fact that the ladder pipe is essentially a major appliance for heavy duty fire fighting and, further, to bear in mind the important consideration in developing heavy streams to keep within the performance limitations of available pumps and water supplies.

NOZZLE REACTION
Figures indicate total reaction in pounds

Nozzle Pressure, Lbs. Per Sq. In.	Nozzle Diameters in Inches									
	1"	1-1/16	1 1/8	1-3/16	1 1/4	1-5/16	1 3/8	1-7/16	2	2 1/4
30	45	57	70	85	101	122	138	188	180	281
40	60	76	94	114	135	163	184	211	240	375
50	75	96	117	142	169	203	229	263	300	468
60	90	114	141	170	203	244	275	316	360	562
70	105	133	164	199	237	284	322	369	420	656
80	120	152	187	227	270	325	367	422	480	750
90	135	171	211	255	304	366	414	474	540	843
100	150	190	234	284	338	406	448	527	600	937
110	165	209	258	313	372	447	505	580	660	1030
120	180	228	281	341	406	487	550	632	720	1125
130	195	247	304	369	440	527	596	685	780	1220
140	210	266	328	398	473	568	642	748	840	1310
150	225	285	352	426	507	606	688	791	900	1410
160	240	304	375	454	541	649	735	843	960	1500
170	255	323	398	483	575	690	780	896	1020	1590
180	270	342	422	511	608	730	825	949	1080	1690
190	285	361	445	540	643	771	871	1002	1140	1780
200	300	380	468	568	676	813	917	1054	1200	1875

It should be remembered that when supplying large nozzle tips on ladder pipes additional pressure must be provided to compensate for the increased elevation. With ladder pipes the friction in the hose carried up the ladder may equal that in several hundred feet of supply hose to the siamese at the base of the ladder.

A frequent difficulty encountered in the use of ladder pipes results from the attempt to use larger nozzle tips than can be accommodated on the waterways of the appliance. Normally it is considered that the smaller ladder pipes should be equipped with 1¼-in. and 1⅜-in. tips, and the larger ladder pipes with 1½-in. to 1⅝-in. tips.

Other factors which have a decided bearing on successful ladder pipe operations are back pressure, and nozzle reaction.

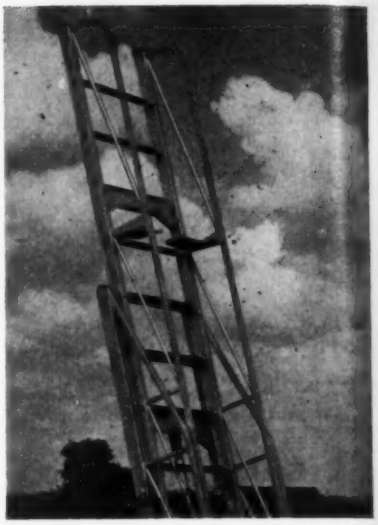


Photo Courtesy Seagrave Corp.

Folding steps on Seagrave metal aerial facilitate operating ladder pipe.

The term "back pressure" is widely used in connection with fire department hydraulics. By "back-pressure" is meant the pressure which a head of water exerts against the engine or hydrant which is forcing the water through hose or stretched to a height. Thus if an engine is pumping water through a hose line stretched to a height of 100 ft, there is going to be back pressure (or it may be called "Gravity Pressure") of 100 x 0.434, or 43.4 pounds. (A depth of water of 1 foot creates a pressure of 0.434 pounds per square inch).

Back pressure, of course, acts directly against the engine, and the pressure created by the engine must be sufficient to take care of this back pressure as well as overcome friction in hose and give the desired nozzle pressure as well.

Every pound of back pressure there is means just one more pound required at the engine to overcome it; in calculating the so-called "back pressure", simply calculate the pressure due to the height of the water above the engine, and this will be the "back pressure."

As an example: If the head of water above the siamese connection on a line of hose at the base of an aerial ladder is 100-ft. what is the pressure at the siamese in pounds per square inch?

Answer: A depth of water of 1 foot creates a pressure of 0.434 pounds per square inch. A depth, or head, of 100 feet would create a pressure of 100 x 0.434, or 43.4 pounds per square inch.

Stream Reaction

Water being discharged from a nozzle under pressure produces a reaction, or "kick-back". The amount of reaction varies as the square of the diameter of the nozzle and directly as the nozzle pressure; the larger the nozzle the greater the reaction; likewise, the greater the nozzle pressure, the greater the reaction.

Extensive tests were conducted some years ago on nozzle reaction by E. M. Byington of the Boston Fire Department. From data so secured, Mr. Byington developed the following formula for calculating nozzle reaction.

Reaction (in pounds) = 15 x D x D

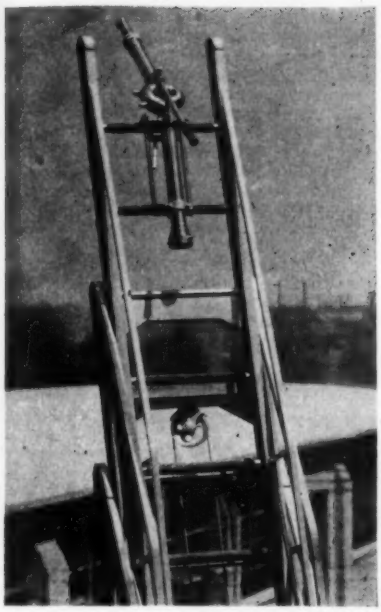


Photo Courtesy Seagrave Corp.

Modern ladder pipe (detachable) fitted on Seagrave aerial ladder tip

x P, where D is the nozzle diameter in inches and P, the nozzle pressure in pounds per square inch. The reaction is given in the total pound "kick-back" rather than the reaction or "kick-back" in pounds per square inch at the nozzle.

Example: What is the reaction in pounds from a 1½-in. nozzle discharging a stream of 80 pounds nozzle pressure?

Answer:

Reaction = 1.5 X D X D X P
= 1.5 X 1½ X 1½ X 80
= 1.5 X 1.5 X 1.5 X 80
= 270 pounds

Of course, in calculating the pressure required at the pump to deliver an effective stream from a ladder pipe (effective in terms of volume and range) the detail of friction loss must be included as well as back pressure.

In the hope that it may help our readers we publish just one of the many problems on the subject which FIRE ENGINEERING's editors have been asked to solve.

The letter to the editor giving the problem read: Our aerial ladder trucks are provided with a ladder pipe mounted on the bed ladder to provide a stream 40 feet above the ground. The ladder pipe is fitted with a standard 2½-in. coupling from which is hung a 40-ft. or shall we just say a 50-ft. section of 2½-in. hose. At the base of this hose is a 2½ x 2½ x 2½-in. siamese. We have three tips for the ladder pipe, a 1¼-in., a 1½-in. and a 1¾ in. There has been some question as to the efficiency of a 1¾-in. stream from two siamesed lines of 2½-in. hose after passing through one section of 2½-in. hose up to the ladder pipe. Can a satisfactory stream be secured from two lines siamesed? What would be the effect of three lines siamesed? The stretch from pump to siamese is 500 feet; nozzle pressure is 70 pounds and a 1¾-in. tip is used. Assume a single pumper is to supply the layout.

Answer: At 70 pounds nozzle pressure, discharge from a 1¾-in. tip is 761 G.P.M.

The friction loss in 100 feet of 2½-in. hose carrying 761 gallons per minute is 123.4 pounds.

The friction loss in 50 ft. of 2½-in. hose at the same flow is 61.7 pounds.

The pressure at the siamese will then be:

Back pressure
=40 x .434 = 17.36 pounds
Nozzle-pressure
= 70 pounds
Friction loss
= 61.7 pounds

Pressure at siamese
= 149.06 pounds

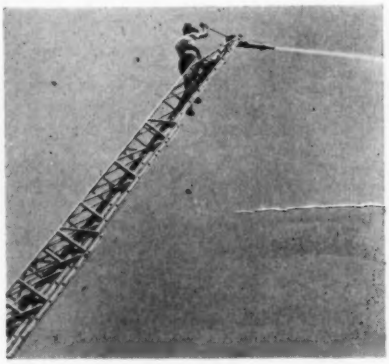


Photo Courtesy Hubert Walker

Ladder pipes can safely be operated at extreme tip. Compensating for nozzle reaction this late type Alfco ladder and pipe is delivering over 700 G.P.M. with excellent range.

The stretch wrom the pumper to the siamese is 500 feet.

Assuming that we are using two lines, each will carry 761 ÷ 2, or 355 gallons per minute, app:oximately.

The friction loss per 100 ft. of 2½-in. hose carrying 355 gallons per minute is 29.3 pounds.

The friction loss in 500 feet will be five times as much, or 146.5 pounds.

The engine pressure will then be 146.5 + 149.06 (pressure at the siamese) = 295.56 pounds.

If three lines are used, each will carry 761 ÷ 3, or 253.67, or 254 gallons approximately.

Friction loss in 100 feet of 2½-in. hose carrying 254 gallons per minute is 16 pounds, approximately.

Friction loss in 500 feet will be five times as much, or 80 pounds.

The engine pressure will then be 80 + 149.06, or 229 pounds, approximately.

No 750 G.P.M. pumper could be expected to deliver 761 gallons per minute at 295 pounds pressure. Only the very largest pumper could deliver 761 gallons at 229 pounds engine pressure.

Editor's Note: Additional information on the use of aerial ladders as water towers, and the application of ladder pipes will be found in Chapter VIII, published in the December, 1950, issue of FIRE ENGINEERING.

Iowa Fire School a Success

The final Iowa State Fire School to be conducted by Bob Byrus, director, engineering service extension at the Iowa State College, Ames, Ia., was held in Ames late in May. The record registration was 438. An impressive list of lecturers and speakers handled topics embracing nearly all phases of fire control.

High point of the School was the presentation to departing Director Byrus by the firemen of the State of a beautiful wrist watch. Byrus has accepted the position as Director Fire Service Extension, University of Maryland.

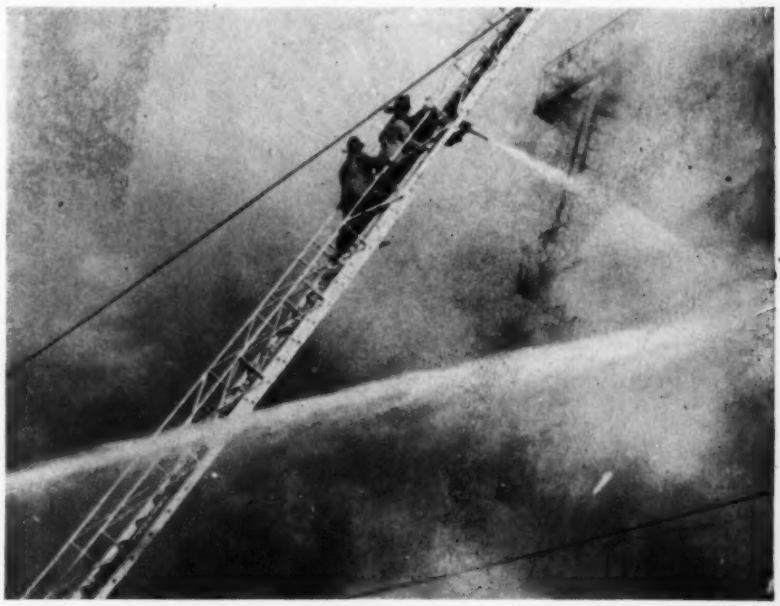


Photo Courtesy Seagrave Corp.

Los Angeles Fire Department uses modern aerial ladders as water towers.

Scene of recent multiple alarm fire where a powerful hand line was brought into play to help drive fire from front areas of upper floors, permitting fire escape operations.

"TOWN MEETINGS" AND FORUMS FEATURE BIG N. E. CONFERENCE

N.E.A.F.C. Protests Siren Removal; Urges Standard C. D. Apparatus and Priorities for Fire Service

HIGHLIGHTS of the busy four-day 29th Annual Conference of the New England Association of Fire Chiefs, which was participated in by 700 fire chiefs and others at Wentworth-by-the-Sea, Portsmouth, N. H., June 19-22, were the spirited panel and forum discussions typical of the New England "town meetings."

From the opening session on Tuesday, with president Chief William H. Clifford III presiding, to the concluding session on Friday when the newly elected president Joseph Scanlon took over the gavel, delegates, and their ladies were occupied with the crowded business and entertainment programs.

Tuesday morning was devoted to the memorial exercises, with selections by the Chapel Quartette, roll call of the deceased members and sounding of taps. The memorial address was delivered by Rev. John P. Fitzsimmons of Belmont, Mass., and the benediction was given by Rev. Michael F. Collins, Marblehead, Mass., who also delivered the invocation at the morning business session at which New Hampshire's governor Sherman Adams officially welcomed the delegates.

Other speakers at the opening session were President Clifford, Mayor Richard S. Margeson, Portsmouth, N. H., City Manager Edward C. Peterson also of Portsmouth, Chief George T. Cogan, President, New Hampshire Fire Chiefs, of Portsmouth, and State Fire Marshal Aubrey G. Robinson. The response to the address of welcome was made by Chief John A. Laughlin, East Providence, president of the New England Division, International Association of Fire Chiefs.

The educational program got under way in earnest Tuesday afternoon with a lively panel discussion led by Chief Roi B. Woolley, Assistant Editor FIRE ENGINEERING and Technical Advisor to the Association. Members of the Panel included Chief Stuart Potter, Greenwich, Conn.; Chief George H. Graham, Bristol, Conn.; Chief Tom Cotter, Providence, R. I.; Chief Walter Murray, Weymouth, Mass.; Chief Henry Thomas, Hartford, Conn.; and Percy Charnock, N. E. Rating Board, Boston, Mass.

Among the topics discussed were procurement of apparatus under the priority restrictions; the types and kinds of apparatus to be built as part of the share-aid civil defense program; getting, holding and training auxiliary firemen; dispersal of equipment under threatened or actual enemy attack; discontinuance of sirens on fire apparatus, and the problem of fire service communications with emphasis on civil defense alerting.

As a result of these discussions, in which manufacturers as well as guests and delegates actively joined, three strong resolutions were later adopted unanimously by the Association. These were (1) to maintain the apparatus specifications for 750 G.P.M. standard pumpers submitted to the Federal Office of Civil Defense Administration by the Committee on Fire Defense and not to permit these specifications to be whittled down as occurred during World War II; (2) not to discontinue the universally recognized warning siren signal on fire apparatus, as is being advocated in some quarters, and (3) requesting the National Production Authority to establish the necessary priorities to insure continued deliveries of needed fire apparatus, equipment and communications facilities.

Photo Courtesy Andy Palmer

Out-Going President Clifford Honored

Fire Chief Henry Thomas of Hartford, Conn., presents Chief William H. Clifford, III, retiring head of New England Association of Fire Chiefs, with the past president's badge.

The Panel also recommended that every community, however small or large, should prepare a comprehensive fire defense plan and program.

Raymond J. Kenny, director and state forester of Massachusetts, then spoke on "Advancements Made in Extinguishing Forest Fires," emphasizing the new techniques and equipment which have been adopted in New England since the disastrous forest fire of a few years ago.

Mr. Kenney was followed by A. W. Sullivan, representative of the American District Telegraph Co., of New York, whose topic was "A Look at the Record of Large Fires." Mr. Sullivan emphasized the importance of early discovery of fires, and of their prompt reporting and automatic extinguishment such as is being accomplished by modern supervisory service.

Wednesday morning's sessions began with a lively, old fashioned "Town Meeting" forum led by Chief Ray Wells of Falmouth, Mass., which was participated in by many delegates, speaking from the floor. Emphasis was placed on the problems of small town volunteer fire companies and departments. The first question discussed was how to maintain personnel in the department of a suburban (bedroom) town. Suggestions included employment of local talent to help chiefs "sell" their department to local officials and taxpayers; utilization of the woman auxiliaries and others to influence improvements in the department, and the installation of permanent firemen as rapidly as possible.

The task of securing and using two-way radio was widely discussed, with emphasis placed on urgency of installing

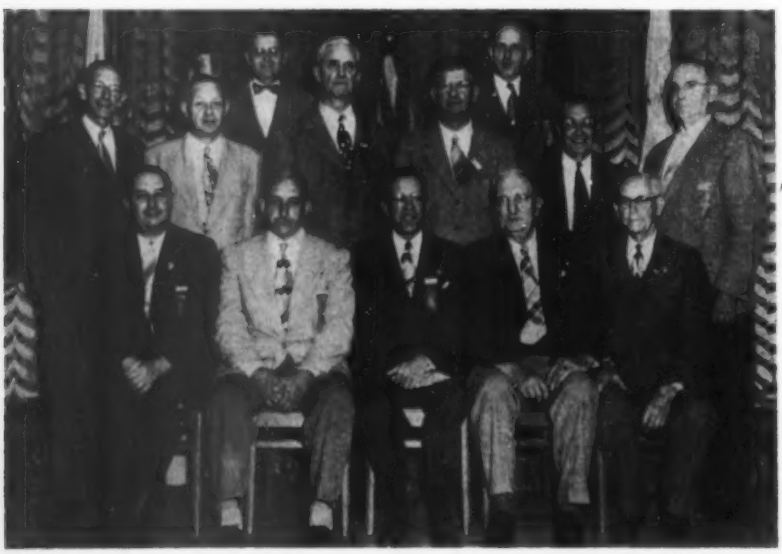


Photo Courtesy Andy Palmer

Officers-Elect of the New England Association of Fire Chiefs

Front row, left to right: Retiring president, Chief William H. Clifford III, Cape Elizabeth, Me.; Chief Henri E. Fortier, second vice-president; Chief Joseph Scanlon, Lynn, Mass., president; Chief Anthony J. Molloy, Nashua, N. H., first vice-president; Ex-Chief John W. O'Hearn, Watertown, Mass., secretary-treasurer. Standing, left to right: Chief Clarence H. Green, Concord, N. H.; Chief A. H. Koltonski, Rutland, Vt.; Rev. John P. Fitzsimmons, Belmont, Mass. (chaplain); Chief A. J. Cote, Woonsocket, R. I.; Chief Thomas H. Slaman, Wellesley, Mass.; Chief William Dooling, Hood Rubber Co., Watertown, Mass., sergeant-at-arms; Chief George C. Graham, Bristol, Conn., and Chief Oliver T. Sanborn, Portland, Maine.

it now. Many members have been slow to impress their local authorities with the advantages and need of modern radio, it was disclosed.

Another topic which brought out many suggestions had to do with the credit given by rating boards for certain types of apparatus, notably pumpers with large booster-tanks, tanker-pumpers and straight water carriers. Percy Charnock, of Boston, bore the brunt of most of these questions, and gave the answers.

Inspection of oil burner installations by volunteer and call chiefs also received consideration and led to the topic of the next speaker, Fred N. Beckwith, Executive secretary Oil Heat Institute of New England: "Cooperative Effort in Fire Prevention Between the Oil Heating Industry and the Fire Departments."

The topic "Fire Prevention by Testing", assigned to John B. Calkin, University of Maine, concluded the morning's session.

In the afternoon, following the usually famous Wentworth "clam bake", John A. Neale, chief engineer, National Board of Fire Underwriters, took for his subject "Fire Departments and the National Board." In this, he pointed out what the Board does, and can do for fire officers and how, in turn, the latter can serve the Board. He was followed by Deputy Chief Edward N. Montgomery of the Boston Fire Department, who spoke on "Fire Fighting vs. Fire Prevention."

"Let's Stop These Fire Deaths" was the title of the address given by Percy Bugbee, general manager, National Fire Protection Association, who employed hard hitting mortality statistics to stress the need of fire chiefs backing campaigns such as the I.A.F.C. is waging with Jay Stevens as "spark spug."

Leo P. Landry, Superintendent of Wires, Watertown, Mass., spoke on "Municipal Fire Alarm Service" and conveyed the felicitations of the International Municipal Signal Association, of which he is an officer, to the assemblage. The afternoon's meeting concluded with a paper by Kenneth H. Erskine, assistant regional manager, The Liverpool & London & Globe Insurance Co.

The evening of Wednesday was devoted to hearing the presentations made by Chief Jay Stevens, Executive secretary, International Association of Fire Chiefs, and Chief William Fitzgerald, president, Pacific Coast Association of Fire Chiefs, who made the trip to the Wentworth meeting especially to urge cooperation in the nationwide drive to reduce the high mortality among children by fire. "We can save 4,000 lives of youngsters this year if we get behind the International's program," Jay declared, and before he departed, the New England group voted to buy "Baby Bonds" for the drive to the extent of $100. Additional bonds were taken by individual state fire groups.

Photos Courtesy Andy Palmer

Panel Discussors and Conference Speakers at New England Meeting

Top left: Prominent speakers enliven Wednesday program. Front row, left to right, Percy Bugbee, general manager, N. F. P. A.; Chief Joseph Scanlon, president-elect, New England Association; John Neale, chief engineer, N. B. F. U. Rear, left to right, John Calkin, Department of Industrial Cooperation, University of Maine; Leo Landry, superintendent of wires, Watertown, Mass.; Kenneth Erskine, assistant regional manager, The Liverpool & London & Globe Insurance Company, Ltd.; Deputy Chief Edward Montgomery, Boston Fire Department.

Top right: Heavy calibre panel gets sets to answer floor question. With Roi B. Woolley. FIRE ENGINEERING, as moderator, top brass handle pertinent questions put by delegates. Seated, left to right, Percy Charnock, New England Rating Board, Boston, Mass.; Chief Henry Thomas, Hartford, Conn.; Chief Tom Cotter, Providence, R. I.; Chief George Graham, Bristol, Conn.; Chief Stuart Potter, Greenwich, Conn.; Chief Walter Murray, Weymouth, Mass.

Bottom left: The Civil Defense Panel. Seated (left to right): Lieutenant Leslie O'Brien, State Police, Director of Civil Defense, Rhode Island; Dr. Walter L. Cronin, Director Civil Defense, Massachusetts; Vice Admiral Andrew Bisset, Director of Civil Defense, New Hampshire; Brig. General Spaulding Bisbee, Director of Civil Defense, Maine. Standing, left to right: General William Hesketh, Director of Civil Defense, Connecticut and Chief Henry Thomas, Hartford, Conn., chairman of the panel.

Bottom right: Jay Stevens, executive secretary, I. A. F. C., points to Hopalong Cassidy poster urging drive on fatal fires, while Chief William Fitzgerald of Seattle, Wash. (left) and President Clifford, New England Association of Fire Chiefs, look on.

Chief Fitzgerald as chairman of a committee appointed by Chief John Anderson, President of the I.A.F.C. to study the problem of salaries of fire chiefs, just completed by his committee, held the delegates' interest with his report of the survey. Chief Fitzgerald surprised many of the delegates with his figures showing what a small percentage of fire chiefs are being paid even the "national average" of salaries for cities in different population groups.

Unexpected circumstances prevented Chief John Alderson, president of the International Association of Fire Chiefs being present. However, he sent congratulations and urged the delegates to be present at the I.A.F.C. meeting this summer in Grand Rapids.

The entire morning session on Thursday was devoted to discussion of the problems of civil defense, with a panel led by Chief Henry Thomas of Hartford taking most of the questions put by the floor.

Those participating included Brigadier Gen. Spaulding Bisbee (Ret.), director of civil defense, Maine; Vice Admiral Andrew G. Bisset, director of civil defense, New Hampshire; Maj. Gen. Merritt A. Edson, U.S.M.C. (Ret), commissioner of public safety, Vermont; Dr. Walter Cronin, director of civil defense, Massachusetts; Lieut. Leslie J. O'Brien, chief of fire division at state level and director of civil defense, Rhode Island, and General William Hesketh, director of civil defense, Connecticut.

The keynote of most of the messages of these speakers was "unity" and "teamwork."

Col. John T. Sheehan, Rhode Island State Police, and R. I. fire marshal, spoke on the "Relationship Between Police and Fire Departments in Fire Investigations," pointing to the need of cooperation between the services in getting and presenting evidence for arson cases.

Photo Courtesy Andy Palmer

Chief Fitzgerald Reports on Chiefs' Salaries

Fire Chief William Fitzgerald, Seattle, Wash., chairman of the I.A.F.C. committee on the study of the wages of fire chiefs, reports on his survey to New England chiefs, at Wentworth, as Chief John O'Hearn, secretary-treasurer of the N.E.A.F.C., looks on.

Thursday afternoon, according to precedent, was given over to the exhibits of which there were over 40 in the packed auditorium and on the field. Many prizes were awarded to lucky coupon holders. This was followed by the traditional cocktail party, and then the Association banquet, with the presentation of the officers and important guests, and the awarding of still more prizes to active fire chiefs in attendance.

Among the banquet speakers were president William Clifford, who presided; Hon. Blaylock Atheron, representing Governor Sherman Adams of New Hampshire; Hon. Edward P. Gilgun, representing Governor Paul A. Dever, of Massachusetts. Mayor Hon. Dan. J. Healy of Rutland was the guest speaker, whose topic was keeping the fires of patriotism burning.

Friday morning was given over to the routine business of the convention, including the election of officers. It was decided unanimously to hold the 1952 conference in Wentworth. The officers of the Association for the coming year are: president Chief Joseph E. Scanlon, Lynn, Mass.; first vice-president, Chief Anthony J. Molloy, Nashua, N. H.; second vice-president, Chief Henri Fortier, Manville, R. I.; secretary-treasurer (re-elected) Chief John W. O'Hearn, Watertown, Mass.

The Board of directors and State vice presidents will consist of the following: Chief Oliver T. Sanborn, Portland, Maine; Chief Clarence H. Green, Concord, N. H.; Chief Alfred H. Koltonski, Rutland, Vt.; Chief Thomas H. Slaman, Wellesley, Mass.; Chief A. J. Cote, Woonsocket, R. I., and Chief George C. Graham, Bristol, Ct. Following the adoption of a proposal that the Board of Directors of the Association hereafter include, for one year, the out-going president, Chief William H. Clifford, 3rd was so appointed.

Appointments made by the incoming president Scanlon for the coming year were as follows: sergeant-at-arms, Chief William J. Dooling, Hood Rubber Co., A Division of B. F. Goodrich Co., Watertown, Mass.; press representative, Andrew P. Palmer, Woonsocket, R. I.; official photographer, Lieut. Edward J. Carroll, Brookline, Mass.; Technical Advisor, Chief Roi B. Woolley, Fire Engineering, New York; Chaplains Rev. Michael F. Collins, Marblehead, Mass. and John P. Fitzsimmons, pastor, Plymouth Congregational Church, Belmont, Mass.

As in the past, there was a lengthy entertainment program with special consideration for the ladies. A get-acquainted party for the ladies, Tuesday afternoon was followed by a vaudeville show in the evening in the hotel ballroom. On Wednesday the ladies were offered

(*Continued on page 525*)

Photo Courtesy Andy Palmer

Apparatus Exhibit Overflows Grounds at Wentworth Conference

Big and little pumpers, high pressure units, tankers and latest metal aerial ladders were massed outside the exhibit hall at the New England Conference, June 19-22. Note: Jay Stevens and Ed. Jagger of the I. A. F. C., "going nowhere" on nearest pumper.

TWO GENERAL ALARM FIRES GIVE PASSAIC FIREMEN HARD WORKOUT

Many Firefighters Overcome by Dense Smoke; Neighboring Communities Send Help

By Richard M. Adelman

PASSAIC, N. J., was recently the scene of two general alarm fires, which occurred within a week, causing damage unofficially estimated at $1,250,000. Within the past two months, two other fires caused damage estimated at between $700,000 and a million dollars, and took four lives.

The series of destructive blazes began on April 19th, when a general alarm fire destroyed the roof and fifth floor of the five story Tudor Court Apartment House, destroyed or damaged 96 apartments and 13 stores, and caused almost a million dollar loss. On May 4th, a mother and three children died in a flash fire which swept a downtown tenement house.

On the afternoon of June 4th, the Arrow Electric Company, the largest electric appliance store in Passaic, was swept by a million dollar general alarm fire, which also destroyed two textile factories and three other stores, and caused smoke or water damage in 27 other stores.

The company occupied an "L" shaped store on the ground floor of a two story brick and frame building at the corner of Hoover Avenue and Monroe Street in the heart of downtown Passaic. Beside the Arrow store, the ground floor also contained a delicatessen, men's clothing shop, and women's dress shop. The second floor contained two textile establishments engaged in the manufacture of women's clothing. The building was not sprinklered and it did not contain any interior fire walls, or fire resistant sub divisions.

The fire was discovered by an off-duty fireman, James Greely, and an off-duty patrolman, Vince Sawicki, who were headed for police headquarters in Greely's car. As the car was stopped in the afternoon traffic of downtown Passaic, the patrolman spotted smoke seeping through a cellar door in the Arrow Building. Both men jumped from the car, the fireman ran a block to the nearest street box and pulled it at 3:13 p.m. The patrolman entered the building and warned the occupants to get out.

As Fireman Greely pulled the box, employees of the Arrow Store saw smoke coming from an electrical outlet. They were telephoning the fire department, as Engines 1 and 3, Truck 1, and the Emergency Squad rolled up in front of the building.

Firemen found the fire in the cellar of the Arrow Store, on the Hoover Avenue side. When the cellar doors were opened, a burst of smoke and flame greeted firemen. The air conditioning system, which was located in the basement continued to function, and carried smoke and heat to the rest of the building. Unable to enter the Hoover Avenue side of the cellar, firemen tried to force a side entrance, but their way was blocked by a steel door, and an acetylene torch had to be used to cut through it. Here too, a large volume of dense black smoke kept firemen from penetrating more than a few feet into the structure. By this time the smoke had banked up against adjacent buildings and filled the entire area around the Arrow building so densely, that operations became slow and hazardous. At 3:16 a second alarm had brought Engine 6 and Truck 1.

Despite reinforcements, the fire soon spread to large stocks of phonograph records and a 1,200 gallon oil tank in the basement. After this, the fire spread through vertical openings to involve the first and then the second floor, where it fed on a quantity of cloth and barrels of dyes and chemicals.

Heavy machinery on the second floor caused it to collapse, as did the roof of the building. Still there was very little actual fire visible, but the dense smoke soon created a pall which spread over the East side of Passaic and neighboring towns. Thousands of people attracted to the scene by the smoke and an "on the spot" radio broadcast of the fire, soon created a traffic jam in Passaic which was described as the worst in the city's history.

At 3:33, a third alarm brought Engine 4 and Turret 1 to the fire, and a minute later a general alarm was sounded, bringing Engines 2 and 5, and all off duty firemen to the scene. In addition, the Passaic Fire Department requested aid from neighboring communities. Clifton sent Engines 1 and 5, with Chief John Zanet. Garfield sent Engines 1, 2, 5, and the Emergency Squad. Later in the afternoon, Wallington, Lodi, and Paterson sent men and apparatus to the fire.

(*Continued on page 532*)

Photo by Russell Zito

Hoover Avenue side of Arrow Building, Passaic, N. J., where the fire began. Picture was taken shortly after the general alarm was sounded. Several lines were later operated from the roof of the two-story building on the left.

Photo by Russell Zito

Passaic firemen are shown here using three streams on the wall between the Arrow Building and the Simon Store on the right. This is the Lexington Avenue side of the building.

FAST ATTACK NIPS SUSPICIOUS WORCESTER TENEMENT FIRE

Dramatic, Action-Packed Fifteen-Minute Battle Told in Dramatic Pictures

As this is written, fire and police officials of Worcester, Mass., are still searching for a firebug who is believed to have set a number of fires in the large, frame multiple tenements typical of many New England cities.

Of these fires, the one pictured herein proved most threatening and, thanks to the appearance of photographer Thomas C. Phillips on the scene with his action camera, the "case history" of this graphic struggle has been recorded for Fire Engineering's readers.

The fire, which occurred June 1, 1951, involved three wooden buildings, one a 3-decker tenement and two cottages. The first alarm, a "still", was received by the fire department at 10:34 P.M. This was followed by a box alarm one minute later.

The structures involved are located at 15 Winfield street and 38 Mason street, Worcester, Mass. These are parallel streets, the large tenement structure facing on Winfield.

The fire, apparently of incendiary origin according to the report of Fire Chief Herbert F. Travers, started under the rear stairway and porches of the three-family dwelling and quickly leaped to the outside of the two exposed cottages. Practically all the buildings in the immediate vicinity are of similar combustible construction and the Worcester Fire department is always alert to the possibilities of a major fire developing in the area.

Responding on the still alarm (15 Winfield street) were Hose Co. 9 and the South End District Chief. Following them almost immediately, on the bell alarm were Engines 2, 4 and 13; Ladders 1 and 7; Squad 1; the Fire Patrol (Salvage Company); one deputy and one district chief.

Three of these units are equipped with two-way radio: the deputy and district chief's cars, and the Squad Car.

As shown by the illustrations, the fire quickly involved the stairways and flooring of the three-decker and badly scorched the outside rear facing of the structure. It also communicated to and damaged to lesser degree the outside of the two cottages.

The entire operation was handled with five 2½-in. water lines, three lines on the outside of the main building and two on the inside. Two of the outside lines were used to kill the fire on the larger structure and the third to take care of the exposure fires. One of the inside lines went in through the front door to the third floor and attic. The other inside line went over a ladder to the third floor. After the main body of fire was knocked down, large lines were reduced to facilitate overhauling. The Worcester Department makes fullest use of water-fog.

Scott Air-paks were used by the crews of the inside lines to penetrate the smoke and gases of the interior and doubtless this ability to advance lines into the structure was the main factor in preventing complete interior involvement. As it was, except for a little scorching just inside the rear face of the building, no fire penetrated into the apartments. The tenants were able to reoccupy their quarters soon after the end of operations.

The re-call was sounded at 12:35 A.M. June 2, 1951.

Here is how photographer Phillips describes his progressive photo "case history" of this fire, picture by picture.

Figure 1: Time 10:33 P.M. (one minute before still alarm). Fire which started in the lower basement entrance has rapidly extended upward and has now involved piazzas on all three floors, is overlapping the roof and has ignited the roof, sidewall and the front of the small cottage on the left. Figure 2: Time 10:36 P.M. (one minute after box alarm). Fire at its height. Small cottage on the left is seriously involved, showing fire at back piazza and side of building and fully covering the upper bedroom window of the cottage. Stair shaft on the three tenement house is now completely on fire with flames breaking out and further seriously endangering the cottages. Figure 3: Time 10:39 P. M. (four minutes after box alarm). Attack on the fire by three 2½-inch water lines laid by Hose 9, Engine 4 and Engine 13. After an initial assault over the entire fire area by the first three companies responding, the two cottages are being protected from further extension, and the rear of the three tenement house is fully covered. Figure 4: Time 10:42 P.M. (seven minutes after box alarm). Spread of fire has been checked. Exposed property safe from any further extension and 2½-inch lines are being reduced to 1½-inch lines for further interior fire fighting. At the same time, the entrances to the front of the building were used by other companies to bring in 1½-inch lines to all three floors, which prevented the fire from entering the interior beyond the rear kitchen doors and confining the fire to the rear piazzas and sheds, with some damage to the rear bedrooms, where the fire entered through the windows. Figure 5: Time 10:44 P. M. (Nine minutes after box alarm). Control has been established. Ladders have been brought into action for closer overhaul of the roof of the cottage on the left, and various floors of the three tenement houses. Stairs and piazza floors were otherwise inaccessible except with ladders. Water lines are being brought to interior of both buildings. Figure 6: Time 10:50 P. M. (fifteen minutes after box alarm). Fire has not been extinguished with the exception of the area remaining at the eaves, which man at top of 45-foot ladder is attacking with a 1½-inch line. Men have complete accessibility to all parts of the building from the front and rear. Cottage at left and right have been preserved. Note electric current supply unimpaired to cottage. All that remains is overhaul and clean up. It is interesting to note that people in all three tenements and in both cottages continued to live in them.

Oklahoma A & M Conducts Fire Hazard Course

Oklahoma A. & M. College completed a ten-day short course in fire hazard control, June 19 through 29th. The course was planned for inspectors, fire officials, industrial safety and fire protection specialists, and covered general and special fire hazards found in residence, public, mercantile and industrial occupancies, and the application of fundamental principles of fire hazard control to various safety problems. About 20 topics in all were covered.

Eastern Association Convention Opposes Ban on Fire Sirens

The Eastern Association of Fire Chiefs highlighted its 24th Annual Convention, held at Johnstown, N. Y., May 24 to 26, by adopting a resolution advocating adoption of a distinctive signaling device for air raid warnings under the civil defense programs, which would not in any way conflict with the traditional warning siren signal used by the fire service. The resolution said that existing fire sirens should not be silenced under any circumstances. It also opposed the use of the name "siren" for any air raid warning device. Chiefs were directed to send copies of the resolution to the Governors of the five regional states and U. S. Civil Defense leaders in Washington.

Johnstown Tribune Photo

President Herbert A. Friede bids farewell to Eastern Secretary Charles E. Clark, who leaves the post after seventeen years of service.

Approximately 200 delegates and guests attended the three-day conference, held at the Fort Stanwix Hotel. The delegates were welcomed by Mayor Walter E. Rose of Johnstown. Fire Chief L. Ellis Wagner of York, Pa., responded for the Association, to the Mayor's address. Rev. Franklin G. Senger, Pastor, Cresson Presbyterian Church, Johnstown, conducted the services for the deceased members.

A spirited educational program was conducted with prominent speakers discussing various phases of fire fighting, fire service communications and civil defense. The chief speaker on the latter subject was Col. Lewis F. Acker, head of Pennsylvania Defense Council's air raid warning service. Among the other leading speakers were Fire Chief Lloyd Layman, of Parkersburg, W. Va. and Raymond C. Roberts, Fire Marshal, District of Columbia.

The conference brought the resignation of Chief Charles E. Clark of Wayne, Pa., as secretary of the Eastern Association of Fire Chiefs, a post he has held for 17 years. Press of other business was given as the reason for the step. Chief Clark is secretary of the Pennsylvania Firemen's Association having held that position for 35 years. He is also civil defense fire service chief for the State of Pennsylvania.

The Board of Directors of the Association appointed Fire Chief Joseph A. Giammatteo, Glen Echo, Md., to serve as acting-secretary until officers are elected in 1952. He is presently vice-president of the Association.

The meetings were conducted by President Herbert A. Friede of the District of Columbia who in the name of the Association thanked Chief Clark for his years of faithful service to the organization.

The bid of Reading, Pa., for the 1952 convention of the Association was accepted.

New York State Firemen Hold Spirited Convention

A busy, educational program, highlighted by out-of-door and indoor fire extinguishing operations, and the presentation of a commendation to the New York State Hotel Association, marked the annual convention of the New York State Association of Fire Chiefs, in Poughkeepsie, N. Y. June 3 to 6 last. Over 300 members and their friends were in attendance.

President Chief Walter J. Buckert of the Association, who presided, presented a handsomely framed scroll commending the N. Y. State Hotel Association for its support of fire safety measures urged by the firemen, and its cooperation in other ways through its fire consultant, John J. McCarthy, former Chief of the New York Fire Department.

The members convened Sunday, June 3, opening with an evening session which included addresses of welcome, and the memorial services. Speakers on Monday included Batt. Chief James Deasy, N. Y. F. D. (retired), who spoke on "Know Your Hot Spots, Chief"; Chief Paul P. Heinz of New Haven, who discussed automatic fire alarms; also Thomas W. Ryan, Director, J. Palmer Harcourt, Deputy Director, and B. Richter Townsend, Chief Bureau of Fire, all of the State Division of Safety; Col. Lawrence Wilkinson, State Director of Civil Defense; J. L. Risinger, Safety Supervisor, Socony-Vacuum Oil Companies, who gave a demonstration-talk on oil problems found by firemen and Captain Edward F. Curren, Underwriters Rating Board, who discussed the much-reviewed State MacNeil-Mitchell Multiple Dwelling Law.

On Tuesday, the morning was devoted to a "surprise panel" conducted by B. Richter Townsend, Chief Bureau of Fire, on modern radio communications in the fire service. Included in the panel were: Deputy Chief Thomas P. O'Brien, in charge, Bureau of Fire Alarm Telegraph, New York Fire Department; Chief Roi B. Woolley, Assistant Editor FIRE ENGINEERING, Chairman Committee on Communications, International Association of Fire Chiefs; Chief Leo Barry, Utica, N. Y; Charles W. Potter, chief municipal consultant, State Dept. of Audit and Control, and Edwin H. Coker, engineer special facilities, of the New York Telephone Co. This panel reviewed the entire subject of fire service radio from the national, state and local levels.

Joseph F. Gillece, special investigator of the National Board of Fire Underwriters, New York, also spoke on the question of arson, under the topic "What Shall I Do Now?"

Wednesday's sessions were devoted to

election of officers and other business details. The officers elected for the forthcoming year are: Chiefs Irving D. Merrick, Poughkeepsie, host chief at the convention, president; Frank F. Love, Painted Post; first vice-president; Louis J. Mosher, Elmira, second vice-president; Henry F. Drake, Clinton Corners, secretary.

Maryland Firemen Convene

A huge parade marked the close of the three-day 50th annual convention of the Maryland State Firemen's Association in Cumberland, Md., on June 22 last. Over 50 fire companies, nearly 50 units of apparatus, and 19 bands and drum corps participated.

Speaker at the final session was Governor McKeldin, who praised the volunteers as "men of distinction, volunteering for difficult jobs, doing them well and not hounding the state treasury for assistance."

Another prominent speaker was Dr. H. C. Byrd, president of the University of Maryland, who outlined the University's plans for furthering firemen's training and announced the appointment of Robert Byrus to the post of director of fire service extension.

Newly elected officers of the Association are: Cromwell C. Zembower of La Vale, president; B. H. Shipman, Jr. of Ellicot City, first vice-president; William S. Chenoweth of Pikesville, second vice-president; William A. Wilson of Midland, treasurer; Ted G. Gardner, Riverdale Heights, secretary; James W. Minter of Hereford, chaplain and Vincent A. Simmel of Cottage City, trustee.

IRVING W. JOHNSON

Sacramento Fire Department and Safety Council Conduct F. P. Week Contest

The Sacramento Fire Department, Terence Mulligan, Chief, is proud of its fire prevention efforts. Highspotting the 1950 contest was the essay contest conducted among the public and parochial schools of the city. The above photographs show the lucky winners receiving their awards. They are (photograph at left): *Public School group* (left to right), Janet Wong, 2nd prize winner, $15 in savings stamps, and Nina Adams, $25 savings bond. Chief Thomas A. Deise, Fire Prevention Bureau, Sacramento Fire Department, and Kenneth L. Malcom, vice-president, Sacramento Safety Council. *Parochial group* (right photograph) shows (left to right): Frank Enos, secretary, Sacramento Safety Council; Minnie Oelrich, 2nd prize, $15 savings stamps; Mary Mitchell, 1st prize winner, and Chief Terence Mulligan, Sacramento Fire Department.

Chief Henry Thomas Heads New England Division I. A. F. C.

Fire Chief Henry J. Thomas of Hartford, Conn., was elected president of the New England Division, International Association of Fire Chiefs, at the Division's annual meeting at Wentworth-by-the Sea, on June 19, 1951. He succeeds Fire Chief John A. Laughlin of East Providence, R. I.

Other officers chosen were Chief Walter R. Messer of Keene, first vice-president; Chief Harold E. Nickerson of Brunswick, Me., second vice-president; Chief Alfred Koltonski of Rutland, Vt., secretary, and Chief Lorton C. Walden of Worcester, Mass., sergeant-at-arms.

Directors from each state named were, Maine: Chief Allen F. Payson, Camden; New Hampshire, Chief Carleton H. Nott, Hanover; Vermont, Chief John E. Keefe, Bellows Falls; Massachusetts, Chief Alfred W. Kimball, Hingham; Connecticut, Chief William T. Shaw, New Britain, and Rhode Island, Chief A. J. Cote, Woonsocket.

As in the past two years, the meeting of the New England Division, I. A. F. C., has been held concurrently with the conference of the New England Association of Fire Chiefs at the Wentworth Hotel.

Newly Elected Officers of the New England Division, I. A. F. C.

Back row, left too right, Chief Harold E. Nickerson, Brunswick, Me., second vice-president; Chief A. H. Koltonski, Rutland, Vt., secretary-treasurer, and Chief Walter H. Messer, Keene, N. H., first vice-president. In front are the retiring president, Chief John A. Laughlin of East Providence, R. I., and Chief Henry J. Thomas, Hartford, Conn., president.

Cambridge Deputy Chief Dies at a Fire

An hour and a half after he had reported for duty at Cambridge, Mass., Fire Headquarters, Acting Deputy Chief James E. Crowley, 48, was killed by smoke inhalation and exertion while fighting a three-alarm fire in the Statler Tissue Co. plant, in Somerville.

Starting from some unknown cause, in steel freight cars each containing 50 tons of rolled tissue paper to be converted into facial tissue and other products, the fire spread rapidly and quickly ignited the wooden loading platform, then communicating to the roof of a storage shed, where it entered the packing room of the third floor of the main building to ignite tons of expensive cardboard packing cases.

Two separate alarms were sounded almost simultaneously from both the Somerville and Cambridge sides of the two city line, the location of the fire being almost on the boundary of both. For a time it was feared the entire third floor of the main building of the plant would be involved, which would have caused heavy damage, but firemen halted the flames inside the packing room.

Chief Crowley collapsed as he struggled with half a dozen other firemen to pull heavy rolls of burning tissue from a tightly packed steel freight car. He was carried to a rescue company rig and rushed to Cambridge City Hospital where he was pronounced dead on arrival. As the rescue unit sped through the streets, firemen administered oxygen to the stricken officer in a vain effort to save his life.

Fire of undetermined origin gutted the 12-room home of William C. Johnstone, 76, on Currituck Road, Newtown, Conn., on May 13. Mr. Johnstone, creator of the radio role of "The Shadow," was killed in the fire. Three other persons were injured.

Flash Fire Takes Life of Noted Radio Figure

William C. Johnstone, 76, former radio actor and widely known as an artist and advertising cartoonist, died on May 13 in a $25,000 flash fire which destroyed his 12-room home on Currituck Road, Newtown, Conn. His wife, Mrs. Teresa Johnstone, 63, was revived after being partially overcome by smoke. Another artist and his wife, Mr. and Mrs. Jules Tawoda, who resided in the Johnstone home, were taken to Danbury Hospital with burns of the face, head and hands.

Mr. Johnstone was creator of the radio character, Lamont Cranston, "The Shadow." His body was not recovered from the house until the fire was out.

Fire Marshal Walter F. Glover, of Newtown, said the fire was one of the fastest spreading in his experience, and estimated the damage at $25,000. Three pieces of fire apparatus, two from the Newtown Hook and Ladder Company, and one from the Hawleyville Fire Company, fought the blaze, which was out of control when firemen arrived. The fire is believed by fire officials to have started in the fireplace or chimney.

Mr. Johnstone had in recent years been engaged in advertising work for New York agencies as a cartoonist. His son, William G. Johnstone, Jr., is an actor and resident of California.

The fatal blaze, which consumed the Johnstone home, together with all furnishings and personal effects, was discovered about 6:30 A.M. by Mr. Tawoda, who led his wife and Mrs. Johnstone out to a rear porch. They were unable to reach Mr. Johnstone, sleeping in a second floor room. TOM MAGNER

Dallas Has Simultaneous Fires—One Fatal

While 200 Dallas firemen, manning over 20 pieces of equipment were struggling to bring under control a stubborn, smoky fire that swept through downtown Earl's Steak house, an unexplained fire in a vacant house in another part of the city burned a negro to death.

The downtown blaze, starting from an unknown cause, in the three story, 50 x 100 foot building at 1501 Commerce street, was discovered by a police sergeant, who saw smoke coming from the second story windows. He immediately called firemen, who in turn summoned aid on three additional alarms.

Dense clouds of smoke billowed from the building for nearly three hours as fire fighters, forced to fight the fire from outside the structure, directed streams into the floors from fire escapes, aerial and ground ladders, and hand lines carried into the entrances as well as directed through breached walls. Efforts to use breathing equipment were reported handicapped by the density of the smoke. Two firemen were overcome and three others injured in the effort to get at the hidden blaze, which appeared centered in the upper part of the first floor and the second story. Most seriously injured fireman was Jack Roberts, who suffered a broken leg.

The first alarm, received about 9:45 P.M., was followed by additional calls, bringing in all off-duty firemen. The fire came soon after the restaurant, Earle's Fine Foods, had closed for the night. Practically the entire stock and fixtures of the eating place were destroyed while adjoining establishments, including a liquor store and finance company, were damaged by water and smoke. Prompt spreading of salvage covers, however, held down these losses.

While the heavy consignment of fire fighters were laboring to control this fire, an alarm was received for another blaze in a 3-room frame house at 2106 St. Louis street.

A complement of firemen under command of Battalion Chief H. A. Mayfield responded and extinguished this fire, to discover the body of an unidentified man in the midd e room of the house, which was owned by the City of Dallas. Firemen made short work of this blaze, but it was several hours before they declared the larger fire control'ed.

The response of the apparatus, and broadcast reports of the fire brought the usual large crowd of the curious, requiring extra police to regulate traffic and keep the fire ground free enough for firemen to operate.

The fire, which was the first major downtown blaze in Dallas this year, reportedly caused damage of between $100,000 and $150,000.

Aknowledgement: The editors acknowledge the assistance of Linwood J. Martin, of Dallas, for data upon which this report is based.

False Alarms in Leicester, England

Malicious false alarms continue to be a nuisance, reports Errington McKinnell, Chief Officer, City of Leicester, Eng., in his Annual Report of the Brigade for the year 1950. The total number of calls responded to by the Brigade for the year was 1,401. Of this number, 98 were "malicious false." It is recorded that 46.5% of all calls received over the street fire alarm system were malicious as against 4.5% received by telephone. The report does not give fire loss data.

Photo by Linwood J. Martin

Four alarm assignment used many hose lines and breathing equipment in worst fire of the year. Five Dallas firemen were injured.

Volunteers Alerted by Radio

Volunteer firemen in the village of Oberlin, Ohio, are instantly alerted and receive instructions via a new FM radio system believed to be the first of its kind in the nation.

Oberlin fireman Philip C. Baxter talks to all 27 of the village's volunteer firemen via a new FM radio system. Receiving a fire report by telephone, Baxter, from his desk in the fire station, calls all volunteers at once. Each volunteer has a radio receiver in his home, which acts only to receive fire messages, although the messages are broadcast by the village police radio transmitter.

A radio receiver, tuned to the frequency of the village's police two-way radio system, is located in each of the 27 volunteer firemen's homes. A new selective dispatching device, developed by the G.E. electronics department at Syracuse, N. Y., prevents the receivers in the volunteers' homes acting on police department calls, yet permits their immediate operation in case of fire.

When a fire is reported to the police radio dispatcher's office in the village hall, the dispatcher pushes a button, and can immediately broadcast the alert to all firemen, in addition to the village police cruiser.

In operation only a short time, the new method for alerting the volunteers has already proven its effectiveness by getting more firemen to respond to calls, according to Fire Chief Clarence Van Ausdale.

Village officials are also enthusiastic about the possibilities for using the new radio system for alerting key personnel in Civil Defense work, and during any peacetime disaster.

G.E. engineers who installed the new system said as many as ten agencies like the volunteer firemen can be contacted individually from a single two-way radio transmitter, through use of the new selective dispatching equipment.

Oberlin eventually plans to equip its public utility vehicles with two-way radio, tying them into the selective dispatching system. Men in these vehicles would not hear messages broadcast from Police headquarters unless their special call button were pushed.

Fire Widows Get Checks

Checks totalling $11,096.09 were presented by Chicago's Mayor Kennelly to widows of three firemen killed at the 320 North LaSalle street fire, January 12, 1951. (See Fire Engineering, February, 1951.)

Each widow received a check for $3,351.99. Mayor Kennelly also presented a check for $1,041.02 to sons of a fire insurance patrolman, also killed in the blaze when an explosion tore off part of a wall and buried a number of firemen.

The checks represented contributions made directly to the mayor following the fire. Other contributions, totalling $10,366.09 were made to the Chicago Daily News Fire Heroes Fund, which has been distributed to the widows.

PAUL C. DITZEL

Volunteer fireman Arthur Salo, of Oberlin, Ohio, rolls out of bed after receiving a fire call on his new FM radio receiver. The new radio system permits the village police radio dispatcher to call all 27 volunteer firemen instantly via the police radio transmitter. Radio receivers installed in each fireman's home act only to receive fire calls.

Large Loss at Commercial Building Fire

One fireman was injured and damage estimated at $780,000 was caused when a two-alarm fire raged out of control for three hours in the old Logan Brothers five-story brick building at Housatonic Avenue and Lumber Street, Bridgeport, Conn., on May 1.

Scene at $780,000 fire which destroyed five-story brick structure at Bridgeport, Conn., on May 1. One fireman was injured while fighting the fire.

Firemen from 11 companies, augmented by all off-duty men, poured approximately 650,000 gallons of water into the structure, now occupied by several commercial firms. The fireman injured was Lieut. Robert H. Carlson, of Truck Company 5, who suffered a possible fracture of the left foot when his foot became caught in a section of an 85-foot aerial ladder. He was released following treatment in Bridgeport Hospital.

The first alarm was received at 8:08 P.M., from Box 327, Main and Lumber Streets. Upon arriving at the scene, Asst. Chief Albert J. Schmidlin sent for two additional companies to combat the flames. The second alarm was sent in at 8:25 P.M. by Asst. Chief Percy M. Searles upon orders of Fire Chief Martin J. Hayden. Recall was at 11:06 P.M.

Flames broke through the roof several times and threatened the nearby Hoffman Fuel Company's oil storage tanks, and the yards of the Frank Miller Lumber Company on East Washington Avenue.

Three fire companies, which had responded to an earlier fire, in a dwelling on Madison Avenue, were returning to quarters when the Housatonic Avenue fire broke out. Extensive water damage was done to the nearby H. O. Canfield Company's plant adjoining the burned structure. Sections of the roof and the floor of the fifth floor collapsed during the height of the blaze.

The building was occupied by Stone Brothers, wholesale meats; Housatonic Paper Bag Company, Leventhal Furniture Company, Sol. Hartnig and Sons, Harke Sportswear Company, Scranton

(*Continued on page* 541)

Manufacturers' Announcements

D. D. Cramer Head Aluminum Ladder Co.

D. D. Cramer has been elected president of the Aluminum Ladder Company, Worthington, Pa., manufacturers of aluminum fire ladders, industrial ladders, marine ladders, and gangways. Formerly vice president of the company, Mr. Cramer succeeds S. H. Carbis, founder and president of the company, who died in April of this year. He joined the company in 1940.

D. D. Cramer

H. J. Mudd, general manager of the company, has been elected vice president. He joined the company in 1940 as shop foreman.

Glocke FWD Service Manager

Charles Glocke, for the past six years FWD's field service manager, has been named manager of the Company's service division by Robert A. Olsen, general manager of the Four Wheel Drive Auto Company.

Charles Glocke

Mr. Glocke has been permanently employed by the company since 1934. During World War I, Mr. Glocke was a mechanic at the Four Wheel Drive Auto Company. He later became a field service man for the Nenominee Truck Company, one time subsidiary of FWD. During the 1920's he was service manager for the Chrysler Automobile Distributor in Chicago and for several years was service manager for the Chevrolet Distributorship there. He rejoined FWD in 1934 and went out on the road as a service man, coming back to the home office at the beginning of World War II as assistant service manager in charge of the preparation of service manuals and instruction films for the armed forces. He has been field service manager since 1945.

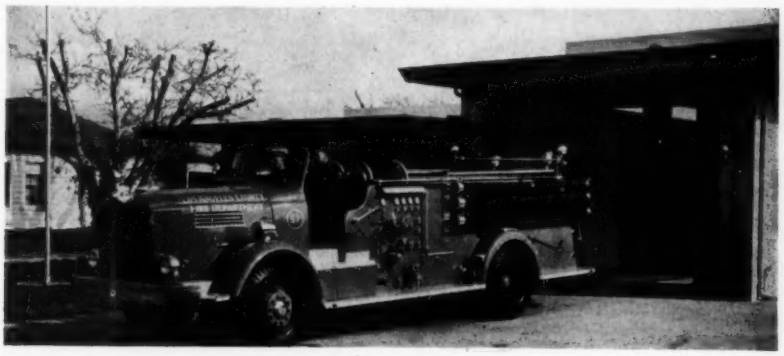
National Foam System Introduces "Aer-O-Foam '99' "

Aer-O-Foam "99," a new liquid type mechanical foam for use on fires involving polar solvents or petroleum products, was introduced to the fire service at a conference of National Foam Company sales agents on June 6, last.

According to Fisher L. Boyd, Company president, the new product has shown by actual fire fighting demonstrations to be easily generated in a mechanical system, flowing freely to provide a smothering, close-knit blanket of fire-killing foam. It is claimed the new liquid will not readily break down or disintegrate on fires involving polar solvents, including methyl, ethyl, isopropyl, alcohols, esters, ketones and ethers as well as petroleum products. Another important feature is a smothering blanket that removes chance of reignition. If broken, the foam mass quickly reseals. It also adheres to and insulates all types of surfaces.

Aer-O-Foam "99" is reportedly noncorrosive and free-flowing even at temperatures as low as 10 F. If frozen, it maintains effectiveness after being thawed out. It may be used with exist-

(*Continued on page* 540)



Los Angeles County gets six new International pumpers.

Six new International Model B 305 pumpers recently were added to the Los Angeles Consolidated Fire District protection forces, and assigned to special assessment districts in the county. The units were required to pass road tests: 50 M.P.H. top speed; 10 miles over normal roads without overheating; 30 M.P.H. from standing start in 300 feet; ascend a 20% grade. Tests were performed with vehicles fully loaded, average weight being 26,540 lbs. Units are Hall-Scott powered; have 500 gal. water tank; 1,600 ft. of 2½-in. hose; two ¾-in. pressure hose reels; compartment for two-way radio; portable generator and other equipment.

Photo Courtesy St. Paul Dispatch Pioneer Press

St. Paul Gets Ten New Mack Pumpers

The fire fighting strength of the St. Paul, Minn., Fire Department has been enhanced by the addition of ten new 1,000 G.P.M. Mack type 95 model pumpers, to the satisfaction of Fire Chief William H. Mattocks and city officials. The new units replace obsolete models ranging from 25 to 30 years old. Some of the new units are equipped with two-way radio. All have special booster tank reel and hose. Picture shows pumpers drafting at waterside at beginning of a test.

Short Cuts and Gadgets

PUBLICIZE FIRE PREVENTION

There's much talk about making fire prevention "week" a year-round effort. Not many average department can hope to do this, at least in terms of extensive, sustained campaigns.

However, there are certain simple, inexpensive promotional activities that can be maintained around the calendar.

One of these is to use the envelopes containing routine correspondence, statements, etc., to taxpayers, and others sent out by the local community as "miniature billboards" for fire prevention and fire protection messages.

Numerous slogans such as "HELP PREVENT FIRES"—"DON'T LET FIRE CLAIM YOUR CHILDREN," and the like, can be printed or rubber stamped on the envelopes, or simple printed stickers similar to the Christmas seals and the like, bearing the slogans can be placed on the containers.

This may sound like old stuff, but it's surprising how few fire departments make use of this easy effective form of promotion.

* * *

FOR FASTER HOOK-UPS

Here's a new adaption of the "squirrel tail" hookup that may interest our readers. It is from Fire Chief John Buell, Kittitas County Fire Protection District No. 2, Ellensburg, Wash., who writes: "This is our arrangement for a pre-connected suction hose. It has worked out very well for our department where we are short handed and obliged to draft from streams, cisterns and irrigation ditches for water in excess of our 500 gallon tank capacity.

"Attached to a 2½-in. front suction pipe is a "Chiksan" Swivel joint, a ¼-turn hydrant gate, 18 ft. of 2½-in. suction hose and a box strainer held in saddles by steel straps and toggles. By employing a swivel joint the suction hose can be turned at any angle desired.

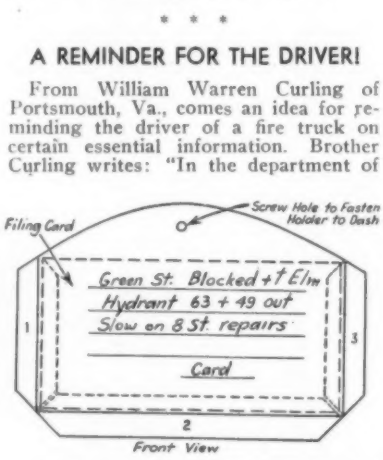
"This suction has ample capacity to supply a 1-in. tip or four ½-in. tips on 1½-in. lines which is sufficient for most of our rural fires."

Chief Buell adds, "we have not seen this particular application of the idea and so thought you might like it for your readers." Thank you, Chief Buell.

* * *

A REMINDER FOR THE DRIVER!

From William Warren Curling of Portsmouth, Va., comes an idea for reminding the driver of a fire truck on certain essential information. Brother Curling writes: "In the department of



which I am a member, we have adopted a little idea of mine which I would like to pass on to others. We all know the chance for human error, such as forgetting hydrants that may be out of service, streets blocked for one reason or another and so on. So, to reduce this chance of error here is what we did.

"A piece of metal of some thin guage, just a little larger than an average filing card, was used. The edges were bent up on both sides and bottom, as shown in the accompanying sketch. The top side was left open. Then this holder was fastened to the dash of the rig so it could easily be seen by the driver while responding to the alarm.

"Next, take a filing card and every morning (or at other appointed times), when the men change shifts, have them write on the essential data such as where the streets are blocked, and hydrants out of service, etc., and then drop the card down the slot.

"By using this method you lessen the chance of trying to take a route that has a blocked street, or taking a hydrant that is out of service."

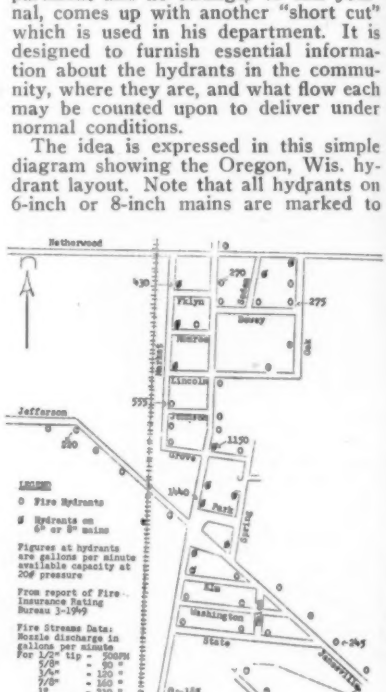
Thank you Brother Curling.

* * *

HYDRANT INFORMATION "ON TAP"

Norton T. Ames of Madison, Wis., a member of the Oregon, Wis., Fire Department and no stranger to this Journal, comes up with another "short cut" which is used in his department. It is designed to furnish essential information about the hydrants in the community, where they are, and what flow each may be counted upon to deliver under normal conditions.

The idea is expressed in this simple diagram showing the Oregon, Wis. hydrant layout. Note that all hydrants on 6-inch or 8-inch mains are marked to



distinguish them from those located on smaller mains.

Copies of this diagram can be carried on fire apparatus, in firemen's cars, and retained in the records of the fire company, for training and instructional purposes.

Any community that has hydrants can prepare a similar map. If there are auxiliary water supplies these also could be indicated.

It is not essential that the fire stream data, giving nozzle discharges in gallons per minute for various sized tips, be included on the chart, but it is pertinent and may be helpful in reminding firemen of the sizes of tips to be used under certain conditions.

* * *

Many sections of the East are so built up that it is difficult to determine just where one community (and fire district) begins and another ends. Because of this fact it is the general custom to paint the fire hydrants of each governmental subdivision (or fire district) individual colors, different from the identification color of hydrants on neighboring water systems.

"Squirrel tail" hookup used by Kittitas County Fire Protection District No. 2.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Robins Give Vamps the Bird!

The proud record of the Linda District Volunteer Fire Department, out California way, was endangered recently by a pair of inconsiderate robins.

The District, just south of Marysville, boasts a volunteer department, one of the chief assets of which is a fine big siren atop of a fine big pole, to alert the vamps.

The system has always operated at top efficiency—until the other day, when a truck caught fire, and the call went through to the fire station. Fire Chief Charles Miller was right on the job, and pushed the button to sound the beauteous big siren, but—not even a buzz!

After repeated tries, Chief Miller climbed the pole and found the cause of it all—a robin's nest had blocked the works, and the whirring 'innards' of the siren had chopped up Ma Robin.

Chief Miller screened out the tenant trespassers, and the siren is now ready for business again. Meantime, the truck driver, tired of waiting for the volunteers, put out the fire with dirt—and moved on!

* * *

Contributor McDonnell Reports—

WISCONSIN RAPIDS, WIS.—Nineteen kids saved their country school from burning by carrying water from an outside pump while their teacher drove two miles to telephone for help. The youngsters, ranging from first to eighth grades, splashed water on a chimney blaze in the one-story Clover School. They used dinner buckets, pails and old tin cans. By the time Wisconsin Rapids firemen arrived in response to the call by the teacher, Mrs. Opal Baldwin, the fire was out.

This news item was headed *"This Can't Be Right!"*

* * *

ALPINE, CALIF.—Alpine's volunteer firemen were embarrassed when the first they heard of a fire was when an outside company arrived to put it out. No one had bothered to call them. The volunteers are having bright stickers printed with their telephone numbers on it to be attached to all Alpine 'phone books.

* * *

SILVER SPRING, MD.—Firemen had to put out a blazing stream of water. A water main burst. So did a gas line, and the water and gas "mixed." A lantern on a construction job tipped over. Its burning oil ran into the water-gas mix. The fire-fighting job took four hours.

* * *

Busted Coupling—Wobbly Upper Plate—Lawsuit

As evidence that you never know what's going to happen in this business of fire fighting, take the case of one, Lulu Peters, 57-year-old Negro woman, her false teeth, and the City of Bogalusa, La.

The story unfolded in the 22nd Judicial District Court last June, when Lulu Peters filed suit against the city of Bogalusa for $18,000 damages, claiming that a coupling came loose from a fire hose and hit her foot, and that she was drenched in water. As a result, she was afflicted with a chill" and the "constant chattering" caused her upper dental plate to break.

In court, the claimant exhibited her broken false teeth by taking them from her mouth while on the witness stand.

In defense, a dental technician, who said that a chill couldn't break an upper plate of the type worn by the Peters woman, showed off three pairs of teeth to the court (he didn't say whose they were).

City firemen testified the woman was not hit by any hose and further, that she was not drenched with water.

And there the case rested for the judge's decision, which deponent failed to disclose!

* * *

Boys Get Kick Dynamiting for the Yell of It!

In Miami, a college honor student confessed he led four other thrill-seeking youths on 10 to 15 "dynamite parties" because he got a kick out of reading about the destructive explosions in the newspapers.

The U. of Miami freshman admitted he organized the blasting expeditions which caused several hundred dollars worth of damage just to have a lot of fun. However, it is said he dynamited two of the buildings because he had a grudge against the occupants, who were uninjured in the blasts. Included in the dynamite cases were Miami's Jackson High School, the downtown Imperial Hotel and the Shenandoah High School.

The ringleader is alleged to have manufactured some of the explosives in a shop in his home.

* * *

Firemen Burn House—No April Foolin'

Travelers along the Dutch Creek road near Smyrna, Md., could hardly believe their eyes one night when Smyrna volunteer firemen suddenly appeared out of the nowhere in their shiny apparatus and deliberately set fire to a two-story frame dwelling—and then stood by as the flames destroyed the house.

To all and sundry critics and comentators the officers and members of Citizens Hose Co., Smyrna Fire Department, were quick to deny that this was a sort of April Fool's joke, and that arson is a regular part of their service to their community.

True, Smyrna vamps were in charge of the blaze—at the request of Samuel Weigel, Jr., owner of a local flour mill. He took this means of removing the vacant house on his property to make way for expansion at the mill.

The big crowd that gathered at the scene, and the firemen, all agreed that the burning down was a complete success, the house disappearing in little less than an hour.

It's to be hoped that the vamps got in a lick or two with axe, claw and plaster hook before the fire did its stuff!

* * *

First Fire House Wedding?

From Red Oak, Ia., comes word, via contrib' Carl H. Fuchs, Iowa Firemen's Assn., of what is described as "the first wedding ever held in a local fire station."

On the evening of Dec. 9 (it says), Sherry Ann Frank and William D. Alexander were married in the Red Oak fire house, standing beside "the big red fire truck."

We learn that the Rev. Carl B. Robinson of the First Christian Church performed the double ring ceremony. . . .

The unique setting for the nuptials, we're told, was the choice of the bride. She is the daughter of Fire Chief and Mrs. Neil Frank.

The bridegroom doubtless lent a willing ear to the proposal, inasmuch as he is secretary-treasurer of the Red Oak Fire Department.

Well, folks, may all your alarms be false 'uns and all your fires be "little 'uns."

* * *

Flood Fosters a Fire

Firemen use water to extinguish a fire. Here's the reverse where water started a fire:

At Seymour, Conn., recently flood waters from a heavy rainstorm seeped into the cellar of the Riverview Diner and upset a gasoline can. Fumes from the spilled gasoline reached an oil burner. There was an explosion and fire. Fire Chief James W. Swan, of the Seymour Fire Department, said damage was slight. Tom Magner.

* * *

New Pittsburgh Chief Off to Fast Start

James T. Coslett, Pittsburgh's new fire chief, started off his career as head of the department in traditional style he won't forget in a hurry.

On the day he was to be sworn in he donned his best uniform and proceeded to the city hall where his mother and wife were on hand to watch him take his oath. It was one of those fitting scenes that make municipal history—and pagentry.

Just as the ceremonies reached the critical peak, an alarm rang in, quickly followed by another.

Chief Coslett was the first out of the room, winding up directing six fire companies to control a stubborn blaze.

The new chief, a veteran of 20 years in the fire department is the son of a fireman killed in the line of duty 24 years ago. (Thanks Wm. Davidson.)

* * *

Four Die from Fire as Woman Hogs Party Line

Because a woman refused to give up a party telephone line so that an alarm could be sounded for a fire, four children perished, according to firemen and telephone officials of Everett, Wash.

Firemen said the woman told them she gave up the line immediately. However, Mrs. Vivian Bryant, who tried to telephone the alarm didn't agree. She claimed she asked for the line on which the other woman was talking, and failed to get it.

"Fire? Who are you kidding? I'm paying for my phone too," Mrs. Bryant said the woman answered.

Telephone company officials said the unidentified woman was talking to a telephone employe about a bill. The employe said she heard somebody ask for the line and then hang up when she couldn't get it.

The fast-spreading blaze snuffed out the lives of four small children in the home of Mrs. Bryant. The alarm was finally turned in from a nearby armory. Firemen said a few minutes more notice possibly would have given them time to attempt a rescue.

FALSE ALARMS

Historical Fact

A stork is a bird with many things charged against it which should be blamed on a lark.

Whatever trouble Adam had,
No man in days of yore
Could say when Adam cracked a joke,
"I've heard that one before."

Evidence

A contractor had been called in to testify at the trial of an alleged drunken driver, who had driven his car through the barricade and into a sewer excavation.

Lawyer: "Then you say that this man was drunk?"

Contractor: "No, I do not. I simply said that before the accident, he sat in his car in front of the excavation thirty minutes . . . waiting for the lights to turn green!"

Obliging

Mrs. Sam Lapidus picked three o'clock in the morning of a freezing January day to wake her long-suffering spouse and complain, "Sam, you never make love to me the way you did when we were married thirty-five years ago."

"Please, Rosie," he begged, "be a good girl and let me get a little sleep. I got a hard day at the office tomorrow."

"You used to be so romantic," she persisted, "a regular wild bull! Remember, you used to bite me on the fingers, on the cheek, on the neck. . . . Why don't you do it any more?"

"Sorry, Buddy, you'll have to picket on the other side of the street for a while!"

"Rosie," he explained wearily, "such monkeyshines is for honeymooners. We're too old. Let's go back to sleep."

"Just once," she continued, with the hint of tears in her voice, "you should bite me like you did thirty-five years ago."

"All right," he agreed reluctantly. "Go over to the dressing table and get me my teeth."

Popular Dessert

A road builders convention was being held at a large southern hotel where a big meeting of ministers was being conducted at the same time. The contractors were topping off a big dinner with "spiked watermelon" for dessert, but the hard-pressed waiters served it to the ministers by mistake.

The maitre d'hotel was frantic when he heard of the mix-up.

"That watermelon is soaked in alcohol," he moaned. "Get it away from those ministers before they run me out of town."

The waiters returned to say it was too late: the ministers were busy chewing away at the prized watermelon.

"What did they say?" asked the harassed maitre d'hotel. "How do they like it?"

A waiter answered, "I don't know how they like it, boss, but they're all putting the seeds in their pockets."

A young lady received a brassiere as a birthday present. She said mournfully, "I wish he'd sent me the money instead; I'm flat busted."

"Homer"

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World Wide Fire News

By Roi B. Woolley

Canadian Defense Cupboards Bare?

Plaint of some 500 Dominion Mother Hubbard mayors and municipal officials in conclave at London, Ont., in June, was that the cupboard of local taxation is about empty and civil defense appears stymied for lack of cash.

The Canadian Federation of Mayors and Municipalities convention heard that civil defense planning is handicapped because municipalities do not know "the nature and extent of Federal and Provincial contributions to the cost of the necessary auxiliary fire and other equipment required both for training programs and as standby needs should an emergency come."

Many speakers warned that municipalities, left to their own devices, are unable to stretch their tax dollars any further. "At present," noted Mayor Boivin of Granby, Que., president of the group, "there is a tax on fire fighting equipment bought by municipalities for civil defense; so that, not only is the municipality paying for the defense, it is also paying for the privilege of paying for it."

Looks like the Dominion and the States are companions in misery!

* * *

Brazilian Train-Gas Truck Wreck Kills 51

A grade crossing crash involving a crowded electric train on the government-owned Central Brazil Railway and a tank truck, loaded with 4500 gallons of gasoline, on June 7, 1951, resulted in the deaths of 51 persons and injuries to 47 others.

The train, bound from Belem to Rio de Janeiro, had just pulled out of Nova Iguacu, twenty miles northwest of Rio, its five steel cars filled with workers commuting when it struck the tanker, stalled on the track in the darkness. The impact threw flaming gasoline over and within the motor car and the first passenger car, trapping many passengers and burning them to death.

* * *

Nine Die in Plane Crash and Fire

The entire crew of a 4-engined military plane died when the plane crashed on takeoff, June 6 at San Antonio, Tex., took fire and ignited a filling station and a cafe.

The Gray Eagle Cafe and a filling station were gutted and one woman was badly burned as the plane finally came to rest alongside the cafe. A mile back the big ship tore into electric wires and clipped a utility pole, the right wing dipped sharply earthward and smashed the top of the gasoline station.

Base authorities identified the plane as a C-97 from Kelly Air Base.

* * *

Off the Tape

On May 26 seventeen fires broke out simultaneously in the great central China city of Hankow and destroyed thousands of buildings. The fires were reported set deliberately and raged for 27 hours. It is said Communists arrested 600 Chinese as suspects . . . Chief Frank C. McAuliffe of the Chicago Fire Insurance Patrol, speaking before the 28th annual Midwest Safety Show in Chicago, urged industry to organize fire brigades in all plants as part of the civil defense effort. A plant employee fire brigade is good business in peacetime, he told industry representatives, and during war such a fire brigade may save your business and it will help to preserve your country . . . Two Japanese policemen were recommended for U. S. Air Force decorations after they risked their lives in rescuing an American pilot from a flaming wreckage of a jet fighter. The policemen freed the pilot, trapped in the cockpit, removed their shirts, doused them in a ditch water and smothered flames on his clothing. (Thanks Brother Davidson) . . . A forest fire which raged out of control through thousands of acres near the Alamogordo atomic installation, N. M., was battled by 800 men before it was controlled. More than 9000 acres were blackened following ignition of virgin timber by lightning . . . Rockets fired by a prankster from the deck of the Hudson River Day Line's steamer Alexander Hamilton as she moved past 138th street, Manhattan, were interpreted in both New York and New Jersey as distress signals, bringing the fireboat Duane, police launches, patrols and fire apparatus . . . The yacht Armanda burned and sank in the English channel off Plymouth on June 2 with loss of life of three of her crew and injuries to four others . . . Two of the 538 air raid sirens tested by New York City's civil defense authorities on June 2 caught fire—one in Flushing, the other on the lower East Side of Manhattan. Fires were quickly extinguished.

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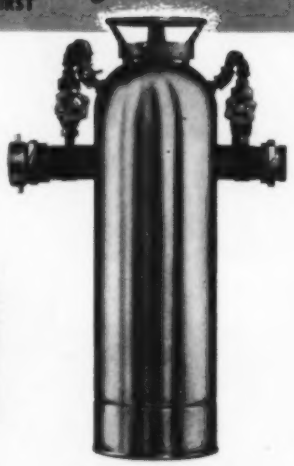

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WELL WORTH CAREFUL STUDY ...
is the factual report of Fire Chief Sweeney of Antioch, Calif. Copies available on request.

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Photos from THE FRENCHMAN © 1948, 1949, by Philippe Halsman, courtesy Simon and Schuster.

NO SLEEPING ON THE JOB! Fixed-Temperature detectors have an inherent time lag due to time required to absorb heat.

NO FALSE ALARMS! Rate-of-Rise detectors may false alarm under non-fire conditions.

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FENWAL, INCORPORATED

247 Pleasant Street, Ashland, Mass.

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Temperature Control Engineers

Atomic Bonb Test

(*Continued from page* 502)

and an old canal bed of the ancient Erie Canal in the rear of the mills along Broad street which were selected for the site of the fire defense operations, on the assumption that the city's hydrant system was rendered useless by the "bomb". Also it was hoped to draft water from a closed culvert which carries overflow from reservoirs on the south end of the city to the Mohawk River on the north and from several large creeks on the outskirts of the city.

Unfortunately, however, these sources could not be used because of the possibilities of contamination. The Board of Health of the City raised strenuous objections to the use of water from the Barge Canal on any simulated emergency because of pollution and the possible hazards to spectators watching the operations.

To preserve the theory of a useless water system therefore, and still avoid the objections advanced, the expediency of using water from 52 gallon barrels was tried. These barrels were fed by 2-2½ in. hose lines from hydrants which were tied together crossing each other about 2½ ft. from the male butts. Suctions from pumps were placed in these barrels through the Vee formed on the hydrant side of the tie.

There were 14 of these water holes which supplied ample quantites of water to four single pump lines; two 2-pump relays; two 3-pump relays; two 6-pump relays; two 7-pump relays; one 8-pump relay and one 9-pump relay.

According to Chief Barry, the exercise was a complete success as far as the fire service was concerned. All relays were completed and with but one exception, all had water on assigned buildings when the order to pick up was received. The exception was the last relay in consisting of apparatus from Jefferson County, some of which drove more than 120 miles to participate. This particular relay was completed but water was not on the building at the time of the order, according to Chief Barry.

Commenting on this single incompleted detail of the operations, the Chief said: "One reason for this, and also an item of interest, while making up this relay, an apparatus pumping in another relay reported a serious drop in oil pressure. The operator was ordered to disconnect his pump and pull into a driveway, leaving his lines. An apparatus from Jefferson County replaced this pump and continued operation in the relay." He added: "As Jefferson County had a water tank wagon, this was used in the last (6-pump) relay at the building to be serviced. This tank wagon which was equipped with a pump, was used as a pumper and would have replaced the missing pump at the building very well if needed."

According to Chief Barry the apparatus and equipment used in the test performed excellently, the only letdown being the one noted. In this case the drop of pressure was caused by a lowering of the oil level. The particular piece of apparatus was driven 65 miles to the scene and had been pumping for at least one hour at the time of the difficulty,—which was not judged serious by observers.

Commenting on the trials, B. Richter Townsend, Chief of the Bureau of Fire reported mobilization: "The run engaged the services of 8 counties and activated 73 engine companies, 11 ambulances, 6 rescue trucks, one tanker and 11 gasoline trailers. In accordance with the prearranged running schedule, the fire equipment of the County of Oneida (radio equipped) responded automatically to check points around the city of Utica, where they were placed under the command of a fire officer of the City of Utica Fire Department. The equipment of the other seven Counties responded to Utica at the request of the Oneida County Fire Coordinator. Such equipment, which was requested from the counties not immediately adjacent to Oneida County, was dispatched from orders of the State Fire Control Center located in Albany.

"This test proved that, above all, the fire equipment of the State was adequately controlled, adequately manned, and could be coordinated through established control centers. It was proved that the fire service of the State is ready to assume its responsibilities for planning for the defense of our State from enemy attack."

Acknowledgement: The editor wishes to thank the Utica Observer-Dispatch for making the photograph appearing on the front cover available to him.

Losses Up in Cedar Rapids

In 1950 the Cedar Rapids, Ia., Fire Department, Chief E. P. Kohout, responded to 872 calls as compared with 765 in 1949. Losses during the year amounted to $157,931 as against $96,036 for the year previous, according to the Department's Annual Report.

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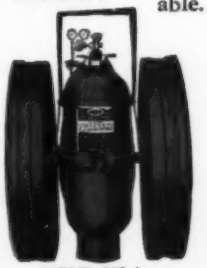
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WATEROUS fire pumps are the standard of several well known fire apparatus manufacturers.

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Among the Buffs

By Paul C. Ditzel

Chicago, Ill.—Early reports indicate no subscribers have threatened to cancel their subscriptions or advertisers to yank their copy out of Fire Engineering following my first-turn-out column last month.

True, Buffalo and Chicago fire pals I needled say they won't speak to me. I don't mind 'cause I understand each one ordered a dozen copies of this magazine.

Of note Chicago-wise is an incident of which I received an exclusive tip and include it in this column after checking with several top officials and receiving confirmation. The incident again demonstrated how badly Chicago needs its own fire department radio system.

Early in the morning a couple weeks ago, firemen were battling a 3-11 alarm in a four-story dairy machinery factory near my middle North Side garret. Suddenly fourth and fifth alarm companies began to arrive.

My fire department tipsters tell me the fourth and fifth alarms were pulled without any official order. The alarms were ordered through the two-way radio in a squad car of the Chicago police department. The person who ordered the simultaneous fourth and fifth alarm has not been located.

In checking the story with a top Chicago Fire Department official I learned the person who pulled the alarms even gave the chief's signature which is always required when ordering extra alarms or striking out a fire through the Chicago police radio.

Chicago policemen cannot be expected to understand fire department parlance or procedure—it's not their job. They do a commendable job holding back crowds on their pre-arranged disaster plans one through five which are put into effect depending upon the scope of the emergency.

I understand there have been other incidents of confusion in using the Chicago police radio for fire department business. Messages from the police radio cars must be repeated verbally from the central complaint room dispatcher to the operator outside the radio booth who repeats the message to the alarm office.

Perhaps an over-eager Chicago fire fan pulled the extra alarms, although my official source seemed to discount this theory. Lack of money has been the excuse for not modernizing the Chicago Fire Department with a two-way radio.

This columnist understands a new coffee klatch has opened Jersey City way. Local buffs here have organized to lead out with coffee at all multiple alarm fires and co-operate with the Jersey City firemen at all workers in that area.

First due on all second alarms are Photographers Benedict J. Stevens and Warren C. Zapp. Photographs of every extra-alarm will be posted in the club records.

Officers of the club which meets monthly are Maitland Weis, chief of the Gong Club; Benjamin Schimel, deputy chief; Albert Elste, chief of records, Joseph Dennis, treasurer; and Thomas Halloran, house watch.

Watch a future column for the story of a Chicago priest who is just as real

in a turnout coat and bunker boots as he is when wearing the cloth.

Chicago fire fans have added a new station to their list of first due responses. The place is called Jim's Fire Barn, 5159 South Wood street. Chief J. Rzonca of the 29th battalion (there are 28 battalions in Chicago) is chief suds dispenser at the place. I hope to have a report on this fire buff meeting place in a future column.

Striking it out again for my second month I hope you remember to keep me posted on all bell activities and send along any buffs news which might interest other bellringers. My quarters are at 859 Wellington avenue, Chicago 14, Ill. I'm on a secondary party line at Eastgate 7-5796.

Los Angeles Adds to Training Films

"Structural Fires", the fourth in the series of fire personnel training films being produced by the Los Angeles Fire Department, has been completed. This 30 minute 16 mm black and white sound film graphically depicts the standard operations of fire extinguishment in buildings.

The majority of scenes in this fast-moving picture were reportedly taken during the course of actual fires (the Los Angeles Fire Department has its own outstanding photographic division). The new film is a highly informative, instructional aid that should prove a fit companion piece to the three preceding films already produced and being distributed. They are

Company Response...	B & W	12 min.	Cost $38.50
Ventilation	B & W	25 min.	Cost 69.50
Brush Fires.....	Color	27 min.	Cost 185.00

The new film is listed at $75.00. Prices include reels, cans and postage. According to C. A. Conlin, Captain, Photography and Publicity of the department, loans or rentals are not available. All communications should be addressed to Mr. Albert Latos, Cinesound Company, 5968 Santa Monica Boulevard, Hollywood 38, Calif.

May Fire Losses

Estimated fire losses in the United States during May were $58,744,000, it was announced by Lewis A. Vincent, general manager of the National Board of Fire Underwriters.

This is a decrease of .03 per cent from losses of $58,765,000 reported for May, 1950, and a decrease of 6.7 per cent from losses of $62,965,000 reported for April, 1951.

Losses for the five months of 1951 now total $331,038,000, an increase or seven per cent over the first five months of 1950.

These estimated losses under fire insurance policies include an allowance for uninsured and unreported losses.

New England Conference

(*Continued from page* 508)

their choice of boating, swimming or bowling in the morning, with "a beano" in the afternoon. All hands participated in the gustatory out-of-door clam bake on Wednesday for which the Wentworth is famous.

In addition, there was dancing in the ballroom every evening.

DO YOU KNOW
How many of the 11,000 Americans who die in fires annually live on the nation's farms?
(SEE ANSWER BELOW)
INDIAN
ANSWER: 3500 farm residents perish in fires each year. The replacement of farm buildings destroyed by fire alone requires cutting 5000 acres of United States forests every year.
THIS LOSS OF LIFE AND PROPERTY MAY BE GREATLY REDUCED WITH
INDIAN
FIRE PUMPS
Outdoor and interior fires in rural or city areas can be stopped before they spread by fast action with portable INDIAN FIRE PUMPS! Tank holds 5 gals. of clear water and carries slung on the back. CIVIL DEFENSE agencies should investigate these great fire fighters.
This new fire truck carries INDIAN FIRE PUMPS as standard equipment.
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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

CONNECTING PRIVATE FIRE ALARMS TO MUNICIPAL SERVICE

THE discussion in this Round Table is a continuation of that which appeared in the May and June issues of FIRE ENGINEERING on private fire alarms.

The generous response from our readers made it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject or on next month's subject which is described in a box on a subsequent page, to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

William D. Thomas, Chief, Binghamton, N. Y.: The Binghamton Fire Department permits and encourages the practice of private establishments to purchase an approved type and make of fire alarm box to be connected to our fire alarm system. This so-called master type box must be purchased and is then installed by the Bureau of Signals on the front of the building or on a pole directly in front at the curb. There is no charge for the installation or maintenance of the box. The private establishment must bear the cost of all labor and materials used on private property. The work and materials have to meet with the approval of the Superintendent of the Bureau of Signals before the box is connected to the fire alarm system. All auxiliary boxes are tested periodically the same as our regular street boxes.

In this day of high loss of life and destruction of property by fire, a large percentage of which is being caused by delayed alarms, I feel that it is good practice and makes for better public relations to encourage the installation of these boxes.

A. H. Hess, Superintendent of Fire Alarm, Waverly, N. Y. We have on our fire alarm circuit three private automatic boxes with a fourth in construction. We make no charge for these boxes. They are installed privately and maintained by the fire alarm maintenance man. We have very little trouble with these boxes, two of which are inside the building. We have a key to one of these buildings. This does away with a watchman and gives an alarm whenever there's a fire or water flow.

Harold R. Becker, Commissioner of Fire, Buffalo, N. Y.: Private establishments must write to the Commissioner of Fire for permission to place fire alarm box on premises. He refers letter to Superintendent of Fire Alarm, who makes inspection as to location, cost of material, labor and number of box. The box must be the same as the new boxes installed on street corners in our city. In old buildings work is done by the Fire Department Electrical Division and a bill is sent to the company when the work is completed. In new buildings the architect contacts the Superintendent of Fire Alarm who inspects the plans and inserts the number, size of wire conduit, location, type and number of box. The Fire Department runs its wires to building lines and connects same to city system. All costs are paid by the establishment.

The box is inspected and pulled about once every month and without additional charge.

G. R. McAlpine, Chief, Oklahoma City, Okla.: The rules as established by this fire department with reference to private fire alarm boxes being attached to our fire alarm system are:

1. The private establishment is required to furnish the fire alarm box and all the necessary material for its installation.
2. We furnish all the labor in connection with the installation.
3. The private establishment is required to release the box or boxes to the city, but they are retained on the property of the private establishment.
4. After the private establishment has turned the ownership of the box over to the city, we from then on provide all maintenance of such boxes.

No charge is made for connecting the fire alarm box to the municipal fire alarm system. We only require that box and material be furnished for the installation. There is no annual for maintenance of such boxes.

HERE IS THE TOPIC

1. **Where a private establishment wishes to install a fire alarm box (which they have purchased) and connect to the municipal fire alarm system, with what rules must they comply?**
2. **What charge, if any, is made for connecting such fire alarm boxes to the municipal fire alarm system?**
3. **Is there an annual charge for maintenance of such box? If so, how much?**

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As you know fire alarm communications is of first importance, and we feel that if any private establishment is willing to provide a fire alarm box and the material to install it, the cost of making the installation only applies to labor, and it is a small cost.

If the fire alarm box is used as it should, it will very likely prevent a delay in reporting a fire, and in most instances reduce the fire loss.

R. F. Waddick, Superintendent Fire Alarm and Radio, Minneapolis, Minn.: We install the fire alarm box and furnish the material to connect to our lines. Then we bill them for box and material. No charge for installation or for maintenance is made. The box has to be outside the building.

William Van Pfefferle, Chief, Camden, N. J.: If a private establishment wishes to install a fire alarm box and connect to the municipal fire alarm system, they must comply with the specifications set up by the Chief of the Electrical Bureau.

There is no charge for connecting such fire alarm boxes, nor is there an annual charge for maintaining them.

John A. Slattery, Chief, Rochester, N. Y.: The company requesting the installation of a fire alarm box must see that the box is accessible twenty-four hours daily including Saturdays, Sundays and holidays to the fire department or its repair crew.

There is no charge for installation or maintenance of these boxes.

Barney J. Houston, Chief, Cincinnati, Ohio: The installation of fire alarm boxes on private property is permitted only where unusual hazards exist. All circuit facilities on the property are installed and maintained by the owner in conformance with the applicable standards of NBFU Pamphlet 73. Regular inspections are made by municipal personnel and the service is discontinued if not properly maintained.

There is no charge for installation or maintenance of these boxes.

C. C. Ralph, Superintendent of Fire Alarm, Portland, Ore.: We do not connect to alarm boxes on private property.

J. B. Boyer, Superintendent of Fire Alarms, Electrical Branch, Tampa, Fla.: If a private establishment wishes to install a fire alarm box and connect to the municipal fire alarm system, they must maintain location inspection on building, which is carried on periodically.

The establishment must pay cost of all equipment used and installation charges. There is no charge for maintenance.

Albert Steen, Chief, Toronto, Ont.: We have forty auxiliary and private boxes connected to our fire alarm system and they must comply with the standards laid down by the Toronto Fire Department.

There is no charge for installation nor is there any annual charge for maintenance.

William C. Garvin, Chief, Yonkers, N. Y.: We have no fixed rules for the installation of private fire alarm boxes on our fire alarm system, but the location must be approved by the Fire Chief and his permission must be secured for the installation.

There is no charge for connecting to the municipal system, nor is there any charge for maintaining the box.

HERE IS THE QUESTION FOR THE NEXT ISSUE

1. Has a Civil Defense program been initiated in your city?
2. Briefly, of what does it consist?
3. Is your fire department a member of a mutual aid group?
4. Have you endeavored to enroll volunteer, or auxiliary, members in your fire defense set-up?
5. Have your efforts been successful?
6. If not, what do you believe would be the solution to this part of the program of Civil Defense?

Michael J. Fleming, Chief, Albany, N. Y.: If the company employs a number of people and it would work a hardship on the employees if they were thrown out of work through a fire, we would install a box on our fire alarm system. But the following rules must be complied with:

The box must not be of an inferior type to other boxes installed on our fire alarm system.

It must be a positive succession non-interfering type box, and capable of working on our fire alarm system without interference with our instruments at Fire Alarm Headquarters.

The box before being installed must be tested and timed by the Superintendent of Fire Alarm. The cable or wire must be installed by a reputable electrician under the supervision of the Superintendent of Fire Alarm at the expense of the owner of the box. Connections to the fire alarm system are made by the fire department lineman at no expense to the owner of box.

A fire alarm box with watchman's service attached is not acceptable.

There is no charge for maintenance of the box.

Thomas J. Phelan, Chief, Trenton, N. J.: No private establishment can be hooked up with our municipal fire alarm system.

John F. Collins, Chief, Cambridge, Mass.: A private establishment must install a box approved by the City Electrician. It must be a three-fold circuit box.

The city will just charge the cost of wire from our system to the building.

If the box is on private property not accessible to anyone outside the premises, the private establishment will have to maintain the box.

Herbert F. Travers, Chief, Worcester, Mass.: Such installation is allowed only under the conditions that all expense be borne by the private establishment and all responsibility for repair and performance within the private establishment be theirs. There must be a shunt that will cut off the private part of the system in the event of defective operation.

There is no annual charge for maintenance of such box.

I might add that where circuits are overcrowded or the requests of this nature are so numerous as to involve

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expensive alteration and expansion of our normal fire alarm installations at the central station, such installations are reserved for such locations as schools, hospitals, institutions, etc., with the thought of life safety deserving this preference.

Leo R. Barry, Chief, Utica, N. Y.: The private establishment furnishes and installs the box and all other wiring and equipment within the building under the specifications of the Fire Department Superintendent of Telegraph.

The Fire Department Telegraph Bureau connects the box to our system with no charge for time or material.

The box is tested monthly by our Telegraph Bureau with no maintenance charge for minor adjustments and repairs. If replacements of major parts are required, the establishment only has to pay for the parts. There is no annual maintenance charge.

J. F. Finnegan, Chief, Richmond, Va.: Permission to install a fire alarm box in a private establishment must be obtained from the Director of Public Safety.

The only charge is for time and material to install and connect the box.

All maintenance costs must be paid by the establishment.

Donald S. Charles, Chief, Charlotte, N. C.: Private establishments must purchase and maintain the box, necessary valves, wire and all equipment needed for installation. All work and equipment within establishment is at owner's expense.

We make no charge for connecting such fire alarm boxes to the municipal fire alarm system, nor is there an annual charge for maintenance.

H. G. Coates, Chief, Windsor, Ont.: The installation wiring, etc., used in the connecting fire alarm boxes in private establishments to the municipal fire alarm system must comply with the standards set up by the Ontario Hydro Electric Power Commission who have jurisdiction over all building wiring. The installation is supervised by a member of the Signal Division of this department.

There is no charge for connecting such fire alarm boxes nor is there an annual maintenance charge.

Henry G. Thomas, Chief, Hartford, Conn.: The type and installation of any private fire alarm box permitted to be connected to the municipal fire alarm system must meet the approval of the fire chief. The installation must be in strict accord with the National Board of Fire Underwriters' standards. Working plans must be submitted to the Municipal fire alarm superintendent who passes on all equipment and installations.

The connections to the municipal system are made by city personnel, for which there is no charge except for the material used.

There is no charge for maintenance or testing of the master box except for repair parts.

The owner or operator of the private establishment pays all other costs of equipment and its installation, including the laying of underground conduits where this is necessary.

All master boxes are tested monthly by the department fire box inspector at which time management is required to have a competent person on hand to test auxiliary equipment under the municipal box inspector's supervision.

Martin J. Hayden, Chief Engineer, Bridgeport, Conn. If a private establishment wishes to install a fire alarm box and connect to the municipal fire alarm system, it must first obtain permission from the fire department. Installation is done by the fire department on the main box only. Auxiliary boxes are not included.

There is no charge for connecting the box. Box will be tested monthly in the same manner as all other boxes, and there is no charge for same.

Walter G. Strickfaden, Chief, Columbus, Ohio: The equipment used in installing fire alarm boxes in private establishments must meet our specifications.

There is no charge for connecting the box to the municipal fire alarm system, nor is there any annual charge, for the box comes under our supervision after the installation is completed.

Dan P. Donahue, Fire Marshal, Peoria, Ill.: The master box must be installed on outside of building with auxiliary boxes on the inside. City Electrical Department will run fire alarm circuit up to the property line. Fire alarm box must be installed by competent electrical contractor.

There is no charge for connecting these fire alarm boxes to the municipal system.

There is no charge for maintenance. We feel that private establishments installing their own fire alarm boxes help the city in general in our fire prevention program and help keep down fire losses.

Installation of fire alarm boxes has to be supervised and inspected by the City Electrical Department.

Ray J. Myers, Superintendent of Fire Alarm Telegraph, Akron, Ohio: We in the City of Akron encourage all the private boxes we can. We have seventy-one private and master boxes. Some are connected to sprinkler systems, heat actuated, and other systems such as auto call by relay to our system. All synthetic rubber plants are on our system.

Separate circuits to large plants such as Goodyear, Firestone and Goodrich are good business, in our opinion.

All circuits on private property are run by them to a street master box except where our cables go direct to the plant fire alarm system.

There is no charge made for connecting the boxes to the municipal fire alarm system, nor is there any maintenance charge.

William Mattocks, Chief, Saint Paul, Minn.: There are no set rules for installing fire alarm boxes in private establishments and connecting them to the city fire alarm system, except that the box must be located on the street in front of the establishment. We have them install the conduit and wire, and we connect the wire to the box.

As long as the box is accessible to the public, we feel no charge should be made.

C. A. Middlekauf, Chief, Houston, Tex.: If a private establishment wishes to install a fire alarm box and connect to the municipal fire alarm system, they must take the matter up with the Mayor who appoints a committee for recommendations.

The purchaser must pay for connecting the box to the municipal fire alarm system.

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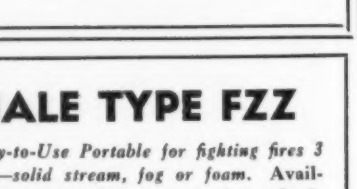

Passaic Fire

(*Continued from page* 509)

Firemen concentrated on keeping the fire in the Arrow Building, and out of exposures.

The worst of the exposures was the four story Simmon Electric Co. building, seperated from the Arrow Building by only a 3 inch brick wall. Firemen kept several lines on the wall throughout the fire, but despite their efforts, part of the wall collapsed during the early evening, and the building suffered heavy smoke and water damage. One wall of the Arrow building bulged out about a foot, and cracked badly enough to cause men and equipment to be moved. The wind, though gentle, changed direction frequently from East to est and added to the firemen's woes, as dense smoke rolled through the streets for blocks.

During the height of the fire, some 20 odd streams were being directed into the fire. Four of these were heavy streams from deck pipes, each being supplied by two or three 2½ inch lines. The remaining streams were from hand lines in the streets and on adjacent roof tops. Twelve firemen, including Passaic Fire Chief William Coffey, were knocked out by the dense smoke. By 5:00 P.M. firemen thought they had the blaze licked, but it flared up again shortly after 5, and it was 6:30 before it was finally brought under control.

Despite this, firemen were unable to contents, the Simon Building, and 27 midnight, out of town companies were released, and a few Passaic Companies were returned to quarters. Overhauling continued all night and well into the next day. Two Engines were still on the scene the next morning.

Damage to the Arrow building and contents, the Simon Building, and 27 other stores which suffered smoke damage, was unofficially estimated at between $750,000 and a million dollars.

On Saturday evening, June 11, 1951, another general alarm fire destroyed three stores and damaged two others on Lexington Avenue only two blocks from the Arrow building, and only a block from Fire Headquarters. The stores destroyed were the Silver Rod Cut Rate Drug Store, Vogue Millinery Shops and Rogers Clothing Company. The Larkey Clothing Company and Nadler's Dept. Store both suffered heavy smoke and water damage.

Dense smoke, which handicapped firemen at the Arrow fire, presented the same problem at this fire. Thirteen firemen were overcome and two were hospitalized with smoke poisoning.

The fire broke out in the cellar of the Silver Rod Store and was discovered a few minutes after the store had closed, by two policemen who turned in an alarm by radio at 9:10 P. M.

Firemen who arrived on a first alarm found smoke coming from Rogers' store, the milinery and drug store. At first the fire appeared to be in the Rogers' store and firemen lined into this store. However, when the other two were opened up, the fire was found in the basement of the Silver Rod Store. At this time a second alarm was sounded, and firemen tried to enter the basement through the store and through holes cut in the sidewalk, but the dense smoke and heat prevented an entry. Lines were also taken through an alley to the rear of the building and up aerial ladders to the roof of the building. All attempts to

use interior lines were prevented by the dense smoke.

At 9:58 P.M. a general alarm brought all Passaic apparatus and off-duty firemen to the scene. Companies from Clifton and Garfield were also summoned. ington and Lyndhurst was sent to Pasington and Lyndhurst was sento Passaic to cover in empty Passaic stations. The fire was brought under control at 1:30 A.M. Sunday, but overhauling continued until 3:30 P.M.

Many of the injured firemen were the same who were hurt in Monday's fire. Fire Chief Coffey, who returned to duty Saturday, after being on sick leave since Monday, was again put off duty during Saturday's fire. Total damage to the five stores involved is expected to reach $250,000.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of June, 1951.

Month Ending June 30, 1951

Athens, Ala.—Men's dormitory bldg. owned by Athens College, occupied by E. D. Wilson Boat Mfg. Co., destroyed.
Birmingham, Ala.—Bentnall Wholesale Furniture Co. destroyed. Lightning.
Decatur, Ala.—Processing plt. for chickens, destroyed.
Guntersville, Ala.—Downtown bldg. occupied by Trent Motor Co. destroyed.
Montgomery, Ala.—The State Conservation Dept.'s div. of forestry bldg., badly damaged.
Phoenix, Ariz.—O'Neill Letter Shop and vacant bldg. damaged.
Tucson, Ariz.—Bldg. occupied by Twenty-Ninth St. Market and Sonora Fish Co. destroyed.
Blythe, Cal.—Union stock Farms grinding bldg. damaged.
Compton, Cal.—Compton Wholesale Grocery Co. whse. of the C. S. Smith Grocery Co., destroyed.
Eureka, Cal.—Humboldt's famous whaling station, Fields Landing, destroyed.
Gilroy, Cal.—Three barns on Luchessa Bros. dairy farm destroyed.
Larkspur, Cal.—Food Bank Super Market destroyed.
Linwood, Cal.—Faulco Industries plywood plt. destroyed.
Los Angeles, Cal.—Hoffman Radio & Television Corp. plt. damaged.
Los Angeles, Cal.—Two-story bldg. occupied by Casey and Mailer, Eli's Art and Bronze Works, Shinko Trading Co. and Ruth's Cafe, gutted.
McFarland, Cal.—Auditorium, music classroom and offices of McFarland Elementary School, destroyed.
Oroville, Cal.—Twain Lumber Co. sawmill destroyed.
Pacific Grove, Cal.—Grove Theatre, Greyhound Bus Terminal, cigar store, 2 medical offices, destroyed.
Quincy, Cal.—Twain unit of High Sierra Pine Lumber Co. destroyed.
Reedley, Cal.—Reedley Lumber Co. yd. destroyed.
San Francisco, Cal.—Fred Newburg auction house and Yuba Hotel damaged. Defective wiring.
San Francisco, Cal.—McKinley Market damaged.
San Jose, Cal.—Three whses., 2030 S. First Street, damaged.
San Jose, Cal.—Storage yd. of McKeon Construction Co. destroyed.
Santa Clara, Cal.—Zahn Steel Lithographing Corp. plt. damaged.
South Gate, Cal.—Three industrial bldgs., occupied by Hunter Wood Works, Glambour Gauge Mfg. Co. and adj. Print Shop.
South San Francisco, Cal.—Gas generating bldg. of Linde Air Products Co. damaged.
Van Nuys, Cal.—Hammond Lumber Co. storage destroyed.
Denver, Colo.—Denver Athletic Club damaged.
Branford, Conn.—Barn on Sachs Bros. livestock farm on Cherry Hill, destroyed. Spontaneous ignition.
Glastonbury, Conn.—Dairy barn on farm of Charles A. Bader, damaged. Spontaneous ignition.
Waterbury, Conn.—Valley National Corp. plastic plt. damaged.
Jacksonville, Fla.—Five business bldgs. occupied

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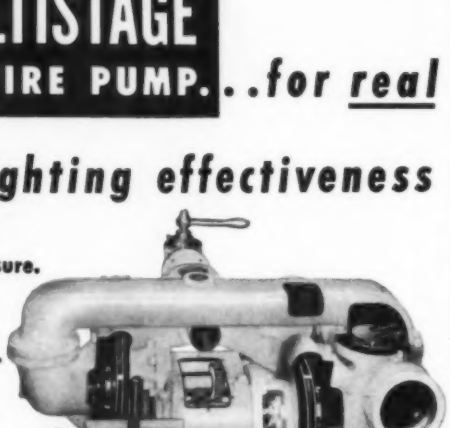

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321-49 WEST REED STREET SAN JOSE, CALIFORNIA

by Edgewood Club, Quinse Villa Barber Shop, Schultz Cleaners, Carlisle Drug Store, Hubbard Hardware Store damaged.

Tampa, Fla.—Bldg. occupied by Weil-Maas Clothing store, a teen-age shop and several other stores, destroyed.

Atlanta, Ga.—Davis Mfg. Co. plt. destroyed. Spontaneous ignition.

Lapwal, Ida.—Lilly Seed Co.'s whse. destroyed.

McLeansboro, Ill.—McLeansboro Creamery damaged.

Marion, Ind.—Large paper whse, owned by Midwest Paper Co. destroyed.

Winamac, Ind.—Whse. owned by George Maddox, containing tires, batteries and auto accessories, destroyed.

Akron, Ia.—Akron feed mill destroyed. Short circuit.

Burlington, Ia.—Brick bldg. occupied by Van Osdol Motor Co., 12 new Packard autos, 14 used, destroyed.

Carrollton, Ky.—Golden Burley Whse. occupied by Crosley television sets and fixtures of R. M. Barker Tobacco Co., destroyed.

Wickliffe, Ky.—Osborne Simmons garage and Oscar Sullivan grocery, damaged.

Ogunquit, Me.—Colonial Inn damaged.

Baltimore, Md.—The Heat and Power Corp., defense materials for Navy and Atomic Energy Commission, destroyed.

Baltimore, Md.—Meadow Gold Ice Cream Co. plt. and whse. damaged.

Salisbury, Md.—Whse. and supplies at Swanson and Son poultry dressing plt., destroyed.

Framingham, Mass.—Union block, mercantile bldg., damaged.

Pontiac, Mich.—M. A. Benson Lumber Co. mill and stored lumber destroyed.

Saginaw, Mich.—Fisher-Watson Co. paint and wallpaper store damaged.

South St. Paul, Minn.—South St. Paul Standard Bldg. Material Co. damaged.

Malden, Mo.—Reade Shirt Co. plt. destroyed.

Livingston, Mont.—Hangars and office quarters at Livingston municipal airport damaged.

Lincoln, Neb.—Whse. and offices of branch of Sperry-Hutchinson Co., destroyed.

Portsmouth, N. H.—Lumberyard at waterfront, destroyed.

Allentown, N. J.—R. B. Richardson Feed Mill on Yardville-Allentown Road, destroyed. Spark from diesel engine.

Atlantic City, N. J.—Freihofer Baking Co. plt. damaged.

Jersey City, N. J.—Cutler Bros. Box and Lumber Co. damaged.

Lakewood, N. J.—Peterson's Sunset Cabin, Route 4, destroyed.

Newton, N. J.—Hart & Iliff Co. lumber yd. destroyed.

Passaic, N. J.—Shopping area occupied by Arrow Electric Co., two textile factories, a dress shop, delicatessen, luncheonette, and men's clothing store, damaged.

Pausboro, N. J.—Socony-Vacuum Oil Co. whse. destroyed.

South Hackensack, N. J.—Two stores, occupied by Quality Meat Market and Barbee Plumbing Supply Co., destroyed.

Teaneck, N. J.—St. Anastasia's parochial school bldg. destroyed.

West New York, N. J.—Bldg. occupied by Harry Schaffer, picture frames and window shades, and Huberman & Weidman & Co., embroidery concern, damaged.

Albuquerque, N. M.—Whse. occupied by Acme Transfer and Storage Co. and Cunningham Distributing Co. destroyed.

Gallup, N. M.—Bubany Lumber Yard destroyed.

Bath, N. Y.—Bern Furniture Store destroyed.

Border City, N. Y.—Seneca Foundry damaged.

Buffalo, N. Y.—Five barns in stable area at Buffalo Raceway and 56 racing horses, destroyed.

Jamaica, N. Y.—Furniture storehouse destroyed. Retail furniture store adj. damaged.

Livingston Manor, N. Y.—Casino of the Hollywood Country Club, summer resort, destroyed.

Mineola, N. Y.—Block long whse. full of bldg. materials at Roosevelt and Clinton Avenues, destroyed.

New York, N. Y.—National Structure Co., storage for tools and clothes lockers for employees, damaged.

Shandaken, N. Y.—Lumber storage and processing plt. in Catskill Mountain village, damaged.

Stony Point, N. Y.—The Kay-Fries Chemicals, Inc., which sprawls over a half acre of land, and manufactures formaldehyde and other chemicals, situated on Route 9-W on the west bank of the Hudson River, about 20 miles north of New York City, destroyed. Explosion.

Cleveland, Ohio—Whse. owned by Buick div. of General Motors, damaged.

Cleveland, Ohio—Reeves plt. of Cleveland Builders Supply Co., brick mfrs., destroyed.

Columbus, Ohio—Buckeye Potato Chip Co., cement block factory, damaged.

Columbus, Ohio—Columbus & Southern Electric Co.'s generating plt. in Pickaway county damaged.

East Sparta, Ohio—Pumping station of Ohio Oil Co. damaged.

St. Bernard, Ohio—Hartley Akin Packing Co. plt., wood processors, damaged.
Steubenville, Ohio—Central Sewer Pipe and Supply Co. three whse., garage, eight trucks and lumber damaged.
Toledo, Ohio—Spring St. School destroyed. Defective wiring.
Cottage Grove, Ore.—Bohemia Lumber Co. machine shop damaged.
Detroit, Ore.—C. O. Briles Sawmill destroyed. Exploding motor.
Drain, Ore.—Gray Lumber Co. destroyed. Faulty switch box.
Grants Pass, Ore.—N. E. Beck & Sons Planing Mill including machinery and finished lumber, destroyed. Welding torch.
Philomath, Ore.—Albertsen Sawmill destroyed. Spontaneous ignition.
Portland, Ore.—Whse. occupied by St. Vincent de Paul destroyed.
Roseburg, Ore.—C & D Lumber Co. mill destroyed.
Brookville, Pa.—Barn on Breevemont Dairy Farm, damaged.
Chester, Pa.—Tollin's Furniture Store, McCrory's 5 and 10c and Birney's Luncheonette, damaged.
Harrisburg, Pa.—Central YMCA bldg. damaged. Cleaning fluid.
Plymouth, Pa.—Dress factory of Leslie-Fay Fashions, destroyed.
Sharon, Pa.—United Storm Window Co. and nearby apt. house, destroyed.
West Chester, Pa.—Barn on William H. Taylor estate, six miles east, destroyed.
Monticello, S. C.—Monticello municipal power station and dwelling of its caretaker, destroyed.
Chattanooga, Tenn.—Sears Roebuck bldg. damaged.
Dyersburg, Tenn.—Bruce High School destroyed.
Henderson, Tenn.—Malone Hotel destroyed.
Dalhart, Tex.—Stored silo and elevator, leased by Gooch Feed Mill Co., destroyed.
Joaquin, Tex.—Central school bldg. destroyed.
Weatherford, Tex.—Three-story Hopkins business bldg. facing the Courthouse Square, housing a Montgomery Ward store, a drug store, a ladies' wear shop, an insurance agency and about 15 professional offices on the second floor, destroyed. Residential bldg. also destroyed.
White River Junction, Vt.—Green Mountain Box & Lumber Co. mill, dwelling and trailer, destroyed.
Norfolk, Va.—Nitrate plt. owned by Chilean Nitrate Corp., destroyed.
Richmond, Va.—Whse. at Frank H. Not, Inc., yds., partially destroyed.
Bremerton, Wash.—Nanette Community Church destroyed. Short circuit.
Pullman, Wash.—Cordova Theatre bldg., Struppler's restaurant, Rouble dance room damaged.
Yakima, Wash.—Kelly-Farquhar Co.'s brinery destroyed.
Jane Lew, W. Va.—The Lewis County Glass Co. destroyed.
Baraboo, Wis.—Storage shed, 100,000 board feet of lumber, a loader and four trucks of Deppe Lumber Co., destroyed.
Viola, Wis.—John Kirkpatrick cold storage whse. destroyed. Lightning.
Vegreville, Alta.—Vegreville Flour Mill destroyed.
Victoria, B. C.—Hudson Lumber Co. Ltd. tents destroyed.
Hanover, Ont.—Hanover Store Fixture Co. destroyed.
Huntsville, Ont.—Scotia Planing Mills destroyed.
Markdale, Ont.—Chopping mill of Trent Hydrate Co., 25 tons of hay, a carload of metal and some machinery destroyed. Roof of neighboring house, grain elevator and seed house of F. T. Hill, damaged.
Ottawa, Ont.—Canadian Armies Central Ordnance Depot destroyed.
Toronto, Ont.—Motorcycle and bicycle store owned by Percy McBride, destroyed.
Wahnapitae, Ont.—Three-story Grand Hotel destroyed.
LaReine, Que.—A corps of 400 fire fighters battled with the aid of three planes and a helicopter a 10,000 acre fire burning in the Cochrane District which threatened the Northern Quebec Town of LaReine. The blaze started in slash and debris left from pulpwood outing north of Lake Abitibi.
Montreal, Que.—Six-story brick and cement bldg. of Hospice Ste. Cunegonde, housing aged persons, children and invalids, destroyed.

Chattanooga Fires Up

The Annual Report of the Chattanooga, Tenn., Fire Department, Michael J. Quinn, Chief, for the year 1950 is a bulky document. The number of fires in 1950 was 680 as compared with 572 in 1949. Losses, however, were lower last year, amounting to $244,448.10 as compared with $271,971.75 the year before.

Preferred power for concrete vibrators and a wide range of other road-building and maintenance equipment — the world's most widely used single-cylinder gasoline engines on machines, tools, appliances for industry, construction, railroads, oil fields, and on equipment for farm and home.

You buy with confidence when machines, tools, and appliances are powered by Briggs & Stratton — the recognized leader in single-cylinder, 4-cycle, air-cooled gasoline engines.
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Persons in the News

Maloney Now Jersey City Fire Chief

Deputy Fire Chief Thomas J. Maloney was appointed on May 1, 1951, to succeed Chief Frank Ertle as head of the Jersey City, N. J., Fire Department. Chief Ertle retired on that date after 45 years' service with the department.

The new chief was appointed fireman in May, 1920, and received his promotion to deputy in 1936. He has three sons, one of whom, Raymond, is a fireman attached to Ladder 6 of the Jersey City Fire Department.

In his early days, the new chief was active in semi-pro baseball and he now manages the fire department team. He is a member of the Firemen's Mutual Benevolent Assn., and the International Association of Fire Fighters.

Promotion of Chief Maloney makes William J. Outwater, Sr., the ranking deputy chief of the department and next in line for the chief's post. He was promoted to his present post of deputy chief in 1947.

The advancement of Chief Maloney will necessitate creation of a new third deputy chief. In line for this spot are Battalion Chiefs Otto Schram, Bernard Duffy and Frank Schoppe, who finished in that order in a recent civil service examination for deputy chief.

Byrus Heads Maryland Fire College

Robert Byrus, who has for some years directed firemen's training in the State of Iowa, with headquarters at Iowa State College, Ames, has accepted the post as Director of Fire Service Extension, at the University of Maryland, succeeding Chief James Just, who recently resigned that position.

The announcement of the appointment of Mr. Byrus was made by President Byrd of the University of Maryland at the June convention of the Maryland Firemen's Association in Cumberland, Md.

Although no announcement is forthcoming of the plans for further developing the Maryland Fire School's activities, it is understood that the new Director is concentrating on the preparations for the 18th Annual Maryland Short Course, scheduled to be held on the campus of the University September 4 through 7, this year.

Director Byrus reports that conferences are being held with instructors and others of the State's fire service with a view to mapping future programs. It is understood that he has a number of projects in mind to further develop and make fullest use of the University's outstanding training facilities.

Chief Frank Kuhn of Pontiac Retires

Fire Chief Frank W. Kuhn retired on vacation June 9, upon completion of nearly 44 years service with the Pontiac, Mich. Fire Department, 34 years of which he headed the organization.

Chief Kuhn joined the department as call man in 1907 when there were but

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Actual Size No. 5822

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OF YOUR ASSOCIATION

Wear One!

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Plus 20% Federal Tax

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four full time and a dozen part time men, one station and horse drawn apparatus. Under his direction the force has grown to 100 full paid men with four stations and completely motorized apparatus.

Following his formal retirement, July 1, 1951, Chief and Mrs. Kuhn will spend their summers at Otsego Lake, Mich., and winters in Wrayton Plains.

Chief Davis of Pittsburgh Retires

Fire Chief William H. Davis, for many years the popular head of the Pittsburgh Fire Department, retired on May 2, 1951, to take a seat in the Pittsburgh City Council. He succeeds William Alvah Stewart who has been made a Federal Judge.

Succeeding Chief Davis is James T. Coslett, 47, who has been a member of the fire department for 20 years. His rank, prior to his advancement to chief, was battalion chief.

Obituaries

Chief Behrens, of Elmwood Place

Fire Chief Fred L. Behrens, 65, who headed the Elmwood Place, Ohio, Fire Department for 30 years, is dead after a short illness.

The Chief was widely known for his accomplishments in making the Elmwood Place Fire Department one of the outstanding volunteer organizations in Ohio. He was very active in the Hamilton County Fire Protection Plan.

Ex-Chief S. J. Flores

Sloan J. Flores, 64, Chief of the Shreveport, La., Fire Department from 1923 to 1946, died at his home June 7, 1951, after a long illness.

The former chief, who advanced through all the ranks of the department to become its head, suffered a heart attack in New Orleans last fall from which he never fully recovered.

He joined the department in 1906 as hoseman, and was succeeded, following his retirement, by the present chief, Floyd Kendrick. Chief Flores was a past president and vice-president of the Louisiana Firemen's Association, and past president of the Southwestern Association of Fire Chiefs. He was prominent in Masonic circles. He leaves a widow, Mrs. Fannie Flores.

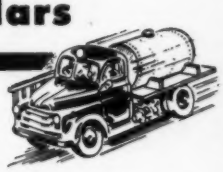
Chief Stockwell, Burlington, Vt.

Fire Chief Carl D. Stockwell, head of the Fort Ethan Allen Fire Department, died of a heart attack late in June at his home. He was 77 years old and his passing is mourned throughout New England, and beyond, by his host of friends and acquaintances.

For more than half his life, Chief Stockwell served in the Burlington, Vt., Fire Department, about 25 years of that time as its chief. He retired in 1939, and a little over three years later became chief of the fire fighters at the Fort, which post he held up to his death.

Chief Stockwell became a call man of

Build your own fire truck for a few hundred dollars

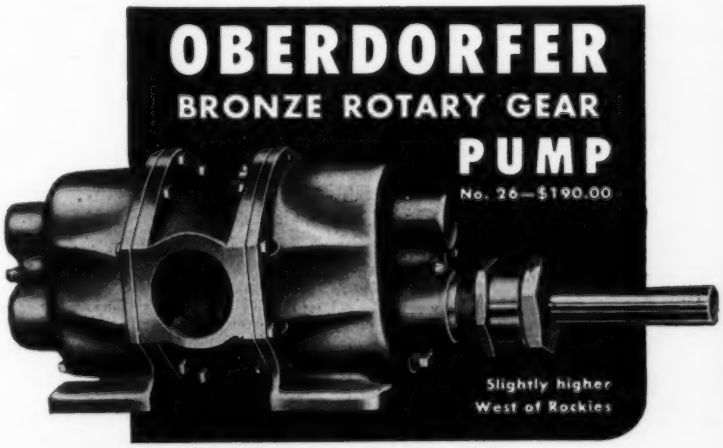


The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 125 lbs. pressure is the fastest and most important phase of fire fighting.

Do you have a garage, a truck and a mechanic with a little common sense? We have the pump you need. Write for details.



PERFORMANCE DATA—No. 26 PUMP SHOWN ABOVE

Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	150

For complete specifications of this and other Oberdorfer All Bronze Booster Pumps, and name of your nearest distributor, write:

FIRE PUMP DIVISION OBERDORFER FOUNDRIES, INC., Syracuse, N.Y.

SPECIFY
HOSE BRASS GOODS
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THE WOOSTER BRASS CO. WOOSTER, OHIO
dependable TRUMPET quality. This insignia on any fire fighting equipment is an assurance of precision construction and thorough engineering for a lifetime of service.
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Are You Equipped for Stepped-up Civil Defense?

Today's tense conditions make full-strength fire defenses a vital "must." Strategists stress continued preparedness for sudden enemy action: wide-scale sabotage, incendiary attacks—even use of the A-Bomb.

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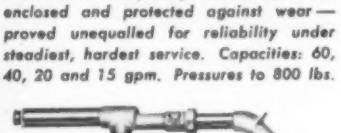
Unfailing efficiency, lasting dependability, thorough atomizing—these are the qualities that insure quicker, easier control of fires with Myers High-Pressure Fog—fires that often could not be handled by other methods.

MYERS "BULLDOZER" FIRE PUMPS *are precision-built; completely self-oiling; fully enclosed and protected against wear—proved unequalled for reliability under steadiest, hardest service. Capacities: 60, 40, 20 and 15 gpm. Pressures to 800 lbs.*



MYERS "SILVER SPRAY" FOG FIRE GUNS *feature speedier, easier, single-control operation. All parts non-corrosive. Guns for long distance fire-fighting also available. All models adaptable for handling various capacities. Capacities: 3½ to 27 gpm. Pressures: 400 to 800 lbs.*

Gear-up your defenses to civil defense needs—with modern MYERS HIGH-PRESSURE FOG EQUIPMENT. Full range of Pumps and Guns fits every requirement. Mail coupon for catalog.

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THE F. E. MYERS & BRO. CO.
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Send Free Fire Pump and Gun Catalog:

Name_____

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the department in 1892, and eighteen months later was made a regular fireman. He was appointed assistant chief and fire warden in April, 1904, and became chief in October, 1914. During his long career, he saw the transition from horse-drawn to motorized apparatus, and his department become a full-paid one, with 42 members.

He was past president and charter member of the New England Association of Fire Chiefs and the International Association of Fire Chiefs. He was a member of Burlington Lodge 100, F. & A. M., the Scottish Rite, and Cairo Temple Shrine of Rutland.

Only two days before his death, Chief Stockwell and a force of his men responded to a call for aid from the Burlington Fire Department, Chief Donald J. Kelley, to help control a threatening fire in the Van Ness Hotel.

Sam Carbis, Founder of Aluminum Ladder Company

S. H. Carbis, founder of the Aluminum Ladder Company, Worthington, Penn., died on April 26, 1951.

Sam Carbis started the first company in the country to manufacture aluminum fire ladders in the depression days of the 30's, some time before his firm was incorporated, in 1936. At that time its plant was a garage in Tarentum, Pa.

S. H. Carbis

Actually, the first aluminum ladders built based upon the ideas of Mr. Carbis, were made by the Aluminum Company of America in New Kensington, Pa., which later were donated to the New Kensington Fire Department.

The late founder of the company had his first training as a mechanic in the B. & O. Railroad shops at Rockwood, Pa., where his father worked before him. He started to work at the age of 16 and from then on, until he became associated with the Aluminum Company of America as machinist in 1917, he was employed in numerous machine shops throughout the country.

By 1930 Sam Carbis was an assistant master mechanic of Alcoa at New Kensington, Pa. At that time he and his eleven assistants, encouraged by the management, discussed new uses for aluminum, and in this connection, the possibilities of aluminum ladders, hose nozzles and fittings for use by the fire service.

Mr. Carbis lived to see his ideas widely accepted by the nation's fire fighters and himself heading the Aluminum Ladder Company, in its own plant in Worthington, Pa.

His death removes from the scene a creator and producer of products es-

ALL NEW!

THE PERFEX "Ranger" FIRE FIGHTING BROOM

- FLAME-PROOFED FIBRES.
- 4" METAL COLLAR REINFORCEMENT AROUND NECK.
- HEAVY GAUGE RUSTPROOF METAL HEAD.
- STRONG HICKORY HANDLES.
- OVERALL LENGTH 60".
- MEET U. S. FORESTRY AND CITY FIRE DEP'RTMENT SPECIFICATIONS.
- GUARANTEED.
- FIBRE COLORED FIRE DEPT. RED FOR EASY IDENTIFICATION.

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IF YOUR DEALER CANNOT SUPPPLY YOU WRITE, GIVING YOUR DEALER'S NAME TO:

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The Swing is to "US" Electric Plants
More and more fire departments are turning to "U.S." for *dependable* emergency power units. Portable and Stand-by plants. *Write for complete information.*
United States Motors Corp.
430 Nebraska St.
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U.S.
UNITED STATES MOTORS CORPORATION
OSHKOSH, WISCONSIN

sential to the business of fire protection. His passing is keenly felt by the service with which he had become so closely associated.

R. G. Joyner

Richard G. Joyner, 41, southwest district sales manager of the Eureka Fire Hose Division of the U. S. Rubber Company, passed away at a Dallas, Tex., hospital on June 27, two hours after he suffered a sudden heart attack.

Richard G. Joyner

Mr. Joyner was the son of Richard W. Joyner, who for many years served as sales manager of the Eureka Fire Hose Division in the same territory, and who was succeeded by the younger Joyner on January 1, 1946.

Richard G. Joyner started working for Eureka in the Dallas office as salesman in January, 1933.

Mr. Joyner had lived in Dallas for thirty-nine years. He was a member of Dallas Knights of Columbus Council 799, a member of Christ the King Men's Club and Holy Trinity Holy Name Society, and an associate member of the International Association of Fire Chiefs.

Mr. Joyner is survived by his parents, Mr. and Mrs. R. W. Joyner, a sister, Mrs. Francis Robinson, all of Dallas, and a brother, W. R. Joyner of Guthrie, Okla.

C. E. Settle has been appointed sales manager to succeed Mr. Joyner. Mr. Settle joined the Dallas office of Eureka as a salesman in July, 1933.

Signalmen to Convene

The 56th Annual Meeting of the International Municipal Signal Association will be held at San Francisco, Cal., September 17-20 next. Headquarters will be the Mark Hopkins Hotel where all business and technical sessions will be held, according to Association secretary Irving Shulsinger.

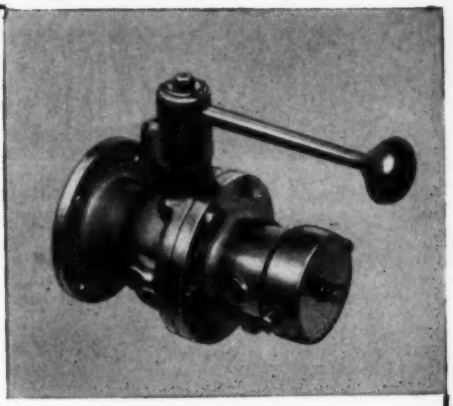
The program will include the latest information and guidance on civil defense at the municipal level. Other subjects include fire alarm, police signal, traffic signals, radio communications for fire and police departments, and street lighting. Outstanding lecturers and leaders of panel discussions will be present.

Leading manufacturers will exhibit the newest equipment in their field and there will be an extensive recreational program for both men and ladies during the conference.

Complete information can be had by addressing Association headquarters at 11 West 42nd street, Room 625, New York 18, N. Y.

The HALE TYPE "BL" Discharge Valve

. . . Available on All HALE Fire Pumps



Easy-turning at all pressures, the Hale Type BL Discharge Valve can be "gated" and locked into position by a slight turn of handle to prevent creeping. The water flow is through a perfectly round waterway for low flow resistance.

Many tests have proved the valve's reliability and freedom from service troubles.

The "BL" valve is not sensitive to dirty water and will hold high pressure or vacuum. Replacement parts are inexpensive, easy to install and do not have to be "ground in." Ample handle clearance and easy turning mean freedom from "knuckle busting."

The Hale Type BL Discharge Valve is typical of constant Hale improvements resulting from constant research.

For detailed information send for Bulletin No. 293 on the Hale BL Discharge Valve.

OUTSTANDING FEATURES

- Turns easily at all pressures.
- Will not leak at pressure or vacuum.
- Circular section through valve cuts flow loss.
- Not sensitive to dirty water.
- Easily serviced . . no "grinding in."
- Slight twist of handle locks valve into any desired position for gating.

HALE FIRE PUMP COMPANY
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Hale Fire Pumps Are Built in All Standard Capacities

SEE THE NEW

MEMCO AERIAL LADDER

BOOTH 56

I. A. F. C. CONFERENCE
GRAND RAPIDS, MICH.
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ECONOMICALLY PRICED
ALL METAL
STEEL and ALUMINUM
SUBSTANTIAL and SAFE
ELECTRICALLY OPERATED
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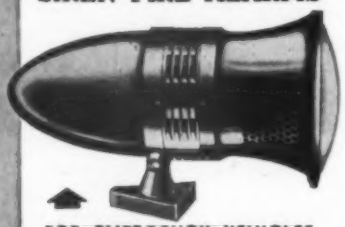
NOT BY CHANCE . . . First in Precision Manufacturing of High Grade SIREN FIRE ALARMS



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FOR EMERGENCY VEHICLES
Model 20 SIRENLITE • Powerful Flashing Beam • Smooth Operation • Streamlined • Chromium Finish • Dependable Service

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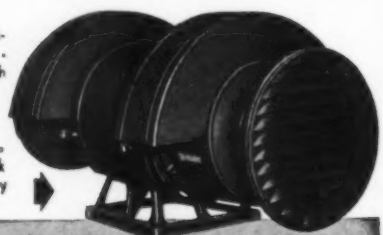
Model M SIREN • Big • Rugged • Powerful • Dependable • Quick Accelerating • Highest Quality Material Used



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10 tools in one — does everything — everywhere

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TESTIMONIALS never awarded any other tool!
BOSTON—"Open Up Man"—"works alone—reduces injury."
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SYRACUSE, N. Y.—"Does everything claimed—and MORE."

A MUST for every piece of apparatus, police cars, crash trucks, emergency cars, piers, ships, etc.

ONE MAN—alone—for Ventilation, forcible entry, brick walls, roofs, floors, trim, ceilings. All inside or outside work.

GET AT IT—IN A HURRY: Prevent explosions: Save time—life and property. "Take one on trial."
ORDER NOW—a BARGAIN at $36 each

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Another BOYER!
CUSTOM BUILT
apparatus recently delivered to Gering, Nebr.

BOYER FIRE APPARATUS CO.
LOGANSPORT, IND.
ESTABLISHED OVER 70 YEARS

News of the Manufacturers

(*Continued from page* 515)

ing 6% mechanical foam-making proportioning devices.

Full details of the new product may be had by writing to National Foam Systems, Inc., West Chester, Pa.

Central Fire Truck Corporation Expands

Officials of the Central Fire Truck Corporation of St. Louis, Mo., announce that additional plant capacity of 11,000 square feet has been added to handle increased fire apparatus manufacturing.

They also announce that Mr. H. J. Rush has been appointed general sales manager, and Mr. Fred C. Spore has been made chief engineer in charge of production.

Mr. Rush has enjoyed a very successful career in the municipal field and Mr. Spore is an outstanding St. Louis industrial engineer.

Wardlaw with Eureka

Jonas S. Smith, Sales Manager, Eureka Fire Hose Div., U. S. Rubber Co., has announced the appointment of John F. Wardlaw, of Rivera, Cal., as distributor for the States of California, Arizona and Nevada.

Fyr-Fyter Appoints Goslin to Philadelphia

The Fyr-Fyter Company of Dayton, O., has appointed John T. Goslin of Devon, Penn., as sales representative in the Philadelphia area. His office is at 1121 Western Savings Fund Bldg., Philadelphia 7, Pa.

Leece-Neville Expansion Announced

Acquisition of additional manufacturing space for its expanding business has recently been announced by The Leece-Neville Co., makers of automotive electrical equipment in Cleveland, Ohio. Some 16,000 sq. ft. of new floor space will be devoted to light manufacturing divisions.

Currently some 60% of Leece-Neville business consists of D. O. rated orders, it is stated. In addition to this participation in the defense program, the company has had a substantial increase in its commercial business. Known especially for the L-N AC-DC alternator system, Leece-Neville also makes heavy-duty generators, motors, regulators and switches. Its replacement heater motor also enjoys increasing popularity.

Included in the announcement was the acceptance by the board of directors of the resignation of S. F. Stewart as president. Direction of the business will continue under the same management as before, with emphasis on efficiency, it was stated.

Rockwood Has New Type Fog Head for Fixed Installations

The principles that have distinguished Rockwood portable waterfog appliances have been incorporated in a new type of fire extinguishment head, the Rockwood T-Head. The new product is engineered and designed for use in fixed piping sys-

tems and can be used either a sealed or open head.

The new device has a directional wide angle, medium velocity discharge and is installed in a pendant position. It is recommended as well for open deluge use. The design of the T-head breaks up the water into a fog pattern to completely fill the area from the ceiling down to the floor and heavy enough to drive the particles down to any fire on the floor. It is reported particularly effective as a water curtain between sections of warehouses and industrial plants where there are high hazard areas.

The company has issued a new, colorful descriptive folder telling all about the new product.

Bridgeport Fire

(*Continued from page* 514)

Manufacturing Company, and the U. S. Novelty Manufacturing Company.

Fire Chief Martin J. Hayden, following his investigation of the fire, stated that it apparently was caused by a cigarette left on a work table in the U. S. Novelty Manufacturing Company's section on the fourth floor. Employes of that company, Chief Hayden said, had been working until a few minutes before the fire broke out. TOM MAGNER

Additional Exhibitors at I.A.F.C. Conference

The following is an additional list of space reservations for the International Association of Fire Chiefs' Conference at Grand Rapids, Mich., received since the publication of the last list in the June issue of FIRE ENGINEERING.

Welker Machinery Co., Inc. (Oilite Division)
V. H. Blackinton & Co., Inc.
Hale Fire Pump Company
Wooster Brass Company
American-LaFrance-Foamite Corporation
Owens-Corning Fiberglas Corporation
Elkhart Brass Manufacturing Company, Inc.
Waterous Company
Federal Enterprises, Inc.
Mack Manufacturing Corporation
General Electric Co.
The General Fire Truck Co.
Radio Corporation of America
The Gerstenslager Company
D. W. Onan & Sons, Inc.
The Gamewell Company
Memco Aerial Ladder (De-Lux Neon Manufacturing Co.)
J. H. Emerson Company

Expanded Training Program Recommended for New York

Recommendations for immediate "modernization" of the New York Fire Department's Fire College are included in a proposed training program prepared by Chief James W. Just (who recently resigned the post of director of fire service extension at the University of Maryland) following a study made by him for Mayor Vincent R. Impellitteri's Committee on Management Survey of New York.

The recommendations hinge upon a survey made by Chief Just of the New York Fire Department's training facilities and procedures and is one of a number of studies intended to improve municipal efficiency in the city, the whole, to cost $2 million.

On the basis of Chief Just's review, the Committee has urged an expanded training program for all firemen and the establishment of a center for research

FIRE FIGHTING'S UP-TO-DATE IN KANSAS CITY

"The Kansas City Fire Patrol Department have used Shuredry Salvage Covers during the past thirty years. During that time many thousands of dollars involved in valuable stocks, merchandise, and machinery have been saved from water damage during fires, and sprinkler system operations."

SAYS CHIEF W. H. GARDNER, KANSAS CITY FIRE PATROL

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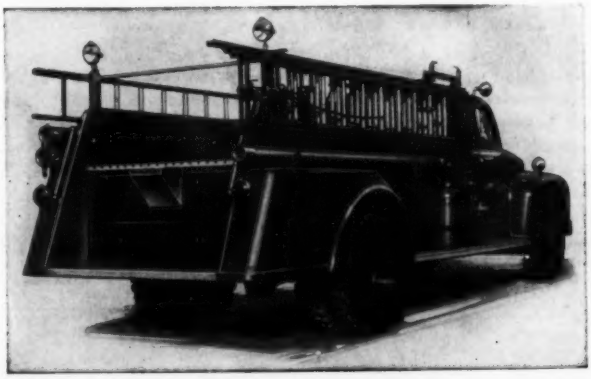

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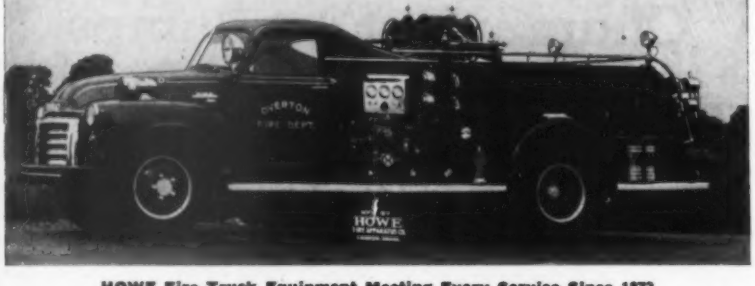

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and experimentation. The Committee balked, however, at Chief Just's urgent recommendation for a new building to house the Fire College, now located at 48-34 35th St., Long Island City, and suggested this construction be delayed until funds may be forthcoming.

The recommendations also include a competitive Civil Service examination open to captains and higher ranks in the department, for a new post of director of the Fire College. At present, Deputy Chief Edward G. Conway is in charge of the College and other training details.

It is said the proposed training program would cost at least $50,000 a year more than the present one but that economy would be attained in the long run "through developing more expert management, higher morale and more rapid introduction of improved methods."

Massillon Has F.M. Radio

High point in the fire department improvement program launched by the City of Massillon, Ohio, in 1950, with the appropriation of $60,000, was the installation of a new F.M. two-way radio system.

Chief Ray Earle Using "Handie-Talkie"

The department's "face-lifting" program, promoted by Fire Chief Ray H. Earle, includes other improvements, such as a new fire station to replace the old building of Number 2 and changes to Number 2 house, but it is the new frequency modulation radio that has given its greatest lift to the fire department.

It took over two years of persistent pounding away by the Chief and his men to induce the city to switch from the old A.M. system, which was found unsatisfactory by the fire department because of interference, to the latest F.M. system. Now the department claims that its acquisition is one of the best in the State of Ohio and that it bids fair to revolutionize fire service operations in Massillon, a city of over 30,000 population.

Claims Chief Earle "the days of sitting in a fire station are over. Now whole companies can go out on inspections, drills and so on and still be in service."

The system designed and installed by Motorola, and fire and police department technicians, cost $8,000 thus far and permits direct communication between both the police and the fire departments and 10 pieces of their mobile equipment. Fire department units presently equipped are three engine companies, rescue

squad, chief's car and the car of the superintendent of fire alarm. In addition there are two "handie talkies" available for use by the fire department.

The system operates on 153.13 m.c. and 174 m.c. using call letters KQB-740. For communicating with the communications systems of law enforcement agencies of other communities in the state, the local system operates on 155.37 m.c. by means of a simple changeover switch at police headquarters (where the system centers). The main control station is connected by two remote control stations by cable. Two receivers are said to permit independent operation by both fire and police departments. The main station operates on 30 watts power and tests are said to have given the fire department coverage of 30 miles. The handie talkies naturally have less range, being battery powered.

Already the system is said to have greatly improved fire protection and law enforcement in the city. Chief Earle believes that now his department is equipped to face any kind of disasters.

East Bergen Mutual Aid Association Functions

Eight community fire departments in Bergen County, N. J., have banded forces to form the East Bergen Mutual Aid Association.

The seed for the cooperation was planted following the disastrous Palisade Park fire about seven years ago. That blaze demonstrated the need of organized, smooth working cooperation between neighboring fire forces.

Today these communities are in the pact: Cliffside Park, Edgewater, Fairview, Leonia, Palisades Park, Fort Lee, Ridgefield and Englewood Cliffs. Except for Cliffside Park and Edgewater, the fire departments are manned by volunteers.

The departments have pooled their resources, making available to each community member approximately 600 firemen and some 50 pieces of fire fighting equipment, including three aerial ladders and six ambulances.

Unlike the average so-called "mutual aid" setup, the East Bergen system has a centralized, systematic dispatching headquarters. Control centers have been set up in Cliffside Park and Edgewater. Any call for assistance from the other towns comes to either center where, by consulting a complete card index filing system, the center can dispatch the needed equipment immediately.

Fire forces are so drawn from different areas that no town is left unprotected in case of a second fire there. Another well taken step was to have the responsibility for calling for and dispatching help placed with the fire chiefs, rather than with civic or other officials, as has been the custom in many localities.

Since its inception, the group has attracted wide attention. A year ago, Fire Chiefs McGrath of Cliffside Park and Lasher of Edgewater set up a similar system in Union County, N. J., at the request of chiefs' association there.

Southern California Foresters and Fire Wardens Meet

The Annual Meeting of the Southern California Association of Foresters and Fire Wardens was held in the Civic

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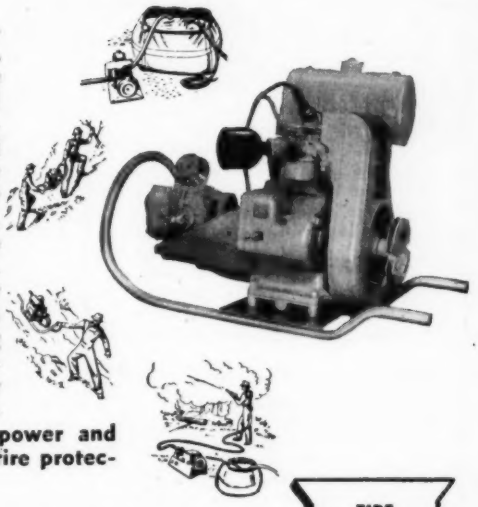

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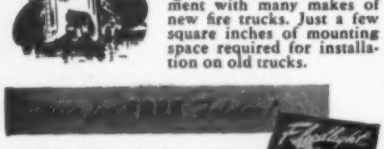

Special folder describes many lightweight models for fire department use. D.C.: 750 to 5,000 watts. A.C.: 400 to 3,000 watts. Large, water-cooled plants for emergency operation of signal systems to 35,000 watts.

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Auditorium in Pasadena, California, on April 23 and 24, 1951. The organization, founded in 1930, is composed of federal, state and county forestry and fire protection agencies in the southern half of the State, that have the problem of watershed protection in addition to the regular business of structural fire protection. The attendance was over the 300 mark, the visitors and guests being mostly Chief Officers and members of city fire departments.

Jack J. McNutt, Assistant Supervisor of the Angeles National Forest, as the retiring President, conducted the meeting. One of the highlights of the program was the panel discussion on the subject "Civil Defense and the Fire Agencies." The panel consisted of Harold P. Bowhay, Chief of Fire Services Division, State Office of Civilian Defense; Spence D. Turner, Chief, Los Angeles County Fire Department; Joe A. Scherman, State Forest Ranger, Orange County; and Norman J. Farrell, Supervisor, San Bernardino National Forest.

Chief Jay W. Stevens, Executive Secretary of the International Association of Fire Chiefs, in his capacity as Chairman of its Fire Prevention Committee, outlined the Committee's national fire prevention program to save the lives of children, now under way.

Field demonstrations and equipment displays at Brookside Park in Pasadena were well directed and well attended, being conducted by various units of the Association, public utility companies and manufacturers of fire equipment.

The following officers were installed for the coming year: President, Chief Roland W. Percey, Los Angeles County Fire Department; 1st Vice-President, Elmer Osterman, Associate State Ranger, Orange County; 2d Vice-President, Lee Berriman, District Ranger, Angeles National Forest, and Treasurer, Ed Shultz, Fire Control Officer, Cleveland National Forest.

Columbus Reports Lower Fire Loss in 1950

The Annual Report of the Columbus, Ohio, Fire Department for the year 1950 is a comprehensive, attractively printed, record of achievement. Losses, according to Fire Chief Walter G. Strickfaden, were $316,352, compared with $799,415.97 the year before. There were 12,417 alarms responded to by the department, of which actual fires were 3,512, 26 of them being multiple alarms. The department responded to 112 calls out of the city. Total mileage covered by the department rolling stock was 73,056.6.

The Report details operations of the Training School under Batt. Chief Walter R. Hoelcher; the Bureau of Fire Prevention, Batt. Chief Harry W. Caldwell; the Maintenance & Repair Shop, Supt. F. G. Pfaltzgraf; the operations of the Emergency and Rescue Squads, Capt. W. D. Wentzel; the Fire Alarm Office, Capt. W. J. Gallagher, and Fire & Police Communications, Supt. James G. Harkins.

Chief Strickfaden recommends, among other improvements, a new central headquarters building, and three new fire stations, an increase in personnel; two new 750 G.P.M. pumpers and one 85 ft. aerial ladder; two more emergency squads, completely equipped, a utility hose truck and two panel trucks.

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Questions and Answers

Sulphuric Acid in Fire Hose

To the Editor:

We have in our department a cabinet-type hose dryer. I have noticed that when the hose is removed from the dryer that water runs on the cement floor, causing a white stain to remain. This stain cannot be washed off; it has to wear off. Can this be an acid due to the water remaining in hose while drying?

M. J. C.

Answer: Sometimes when water is left in hose, whether the hose is subsequently dried or not, a weak solution of sulphuric acid is formed by reaction of the water with the free sulfur which remains after vulcanization.

The presence of this sulphuric acid has not proved at all troublesome, as the absence of damage to hose jackets from it in the past would indicate.

When this solution is discharged on concrete, it probably would cause staining, which would be hard to remove.

Ordinarily the phenomenon is noted more in new hose than in hose which has been used for some time.

Because of the absence of damage to the hose, fire departments have never been seriously troubled about the matter.

Stresses on Ladders

To the Editor:

1. Is there any approximate degree of angle of placement of an aerial ladder to assure the greatest stability?

2. How is the leverage exerted at base of an aerial ladder determined, when raised to a length of 75 feet, with a fireman weighing 175 pounds operating a 3-inch supply line with a 1½-inch nozzle at 65 pounds nozzle pressure.

3. I note that the article in the February issue of FIRE ENGINEERING states that the tip of an aerial ladder should be somewhat between 8 and 10 inches from wall of window sill to allow for weight of fireman using it to bring the tip up against such wall, etc. Is this according to physics or what?

I do not know that a ladder tip should be somewhat away from sill or wall to take up the possibility of excessive stress on ladder. Am I incorrect in that assumption?

C. D.

Answer: 1. The greatest stability of an aerial ladder is secured when the ladder is raised vertically (if the tractor is not "jackknifed").

2. The leverage exerted at the base of an aerial ladder when extended depends upon the angle of extension, the load and position of load on the ladder, the size of nozzle being employed, and the angle of direction; the nozzle pressure and the length of outrigger being employed on the ladder truck.

Because of these variables, it is im-

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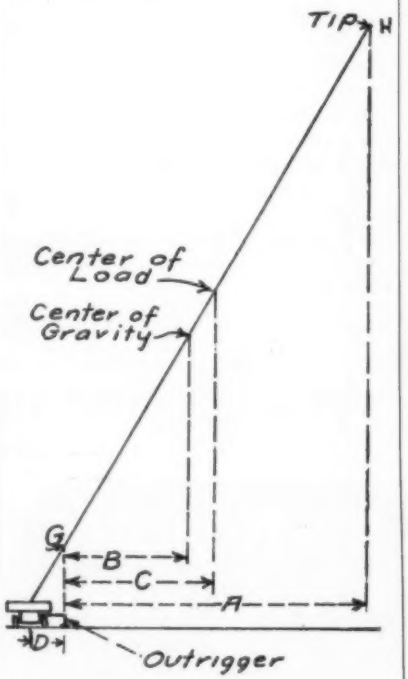
possible to give you an answer to any question on leverage unless all of the items are known.

Herewith is a rough sketch of a ladder extended at an angle. Assume we have a man with a nozzle at point H (the tip) of the ladder. Assume that the distance from the center of gravity of the truck to the point where the outrigger jack is in position is D in feet. The length of ladder which must be supported by the weight of the truck, to prevent overturning, will be GH. The center of gravity of the section of ladder between G and H is indicated on the diagram, as is also the center of load on the ladder (exclusive of the load at H).



Then the turning moment in feet-pounds equal (A × load at tip) + (B × weight of ladder between G and H) + (C × weight on ladder—exclusive of load at tip).

Resisting these forces is the

Total weight of truck (minus ladder from G to H and load thereon) × D.

When the former exceeds the latter, the truck will overturn.

The distances A, B, C and D are, of course, measured horizontally.

But you will note before you can make any calculations whatsoever, you will have to know the center of load on the ladder, as well as the center of gravity of the section of ladder from G to H. Furthermore, the distance the outrigger rests on the ground measured from the center of gravity of the truck must also be known. Then, the weight of the aerial ladder, except the section GH, must also be known.

Thus you will see it would be a complicated problem at best to solve for the stability of a ladder at any particular position unless a number of factors were known in advance.

Answer 3. When the tip of the ladder is brought against the wall, the stress on the ladder raising mechanism and the ladder itself is reduced. The ladder is

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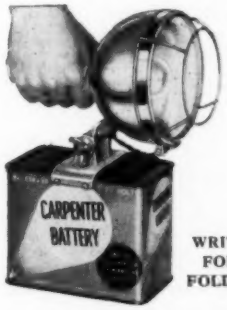

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supported at both ends rather than only at one end. By utilizing the elasticity of the ladder, the load thereon is more evenly distributed between the base and the tip. If the ladder were placed against the building before loading it with personnel, hose, etc., the upper end would be subjected to more than its share of load. The rule therefore is a "common sense" rule.

With reference to the number of men which can be safely allowed on an aerial ladder, if you look on Page 982 of the December, 1950, issue of FIRE ENGINEERING, you will find figures covering this matter. Again, the weight of the individual men, their position on the ladder, and the angle of elevation of the ladder all have a bearing upon the maximum load which the ladder will carry.

Origin of Maltese Cross

To the Editor:

Can you please tell me what is the origin and significance of the so-called Maltese Cross on the fireman's badge as well as on fire equipment?

W. H. B.

Answer: The Maltese Cross was the symbol of the Knights of Malta, one of the successors to the Knights of St. John of Jerusalem, a religious order growing out of a hospital founded at Jerusalem about 1048. This order acquired great wealth and power during the Crusades. As the Moslems gained headway, the order withdrew its seat successively to Acre, Cyprus, Rhodes and finally Malta, whence it has also been known as the Knights of Rhodes and the Knights of Malta. By 1799, it was generally suppressed, although branches survived in different countries to the present time.

This order was originally devoted to caring for the ill, and otherwise endangered and incapacitated crusaders. Whether or not the order also included fire protection in its work cannot be said.

However, the Maltese Cross has been a symbol of the fire service back as far as fire service histories go.

This is about all that is known of the origin of the Maltese Cross, insofar as its relation to the fire service is concerned.

Newark Fire Department Takes Over Salvage Corps

Newark, N. J., Public Safety Director John Keenan has announced that his city is prepared to take over the 72-year-old Salvage Corps, a unit of the Underwriters Protective Association, which is scheduled to go out of existence June 30, 1951.

Keenan said he would move to have the salvage corps unit included in the Newark Fire Department after Governor Driscoll of New Jersey signs enabling measures permitting the city to accept the association's gift of property, equipment and personnel.

The association, a group of insurance companies, announced last Spring it would discontinue operation of the corps on June 30, 1950. It extended the life of the corps another year at the request of Keenan and the City Commission. The Commissioner included a $50,000 appropriation in his 1951 departmental budget to operate the corps beginning July 1.

Included in the association's transfer

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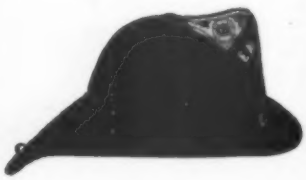

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The Salvage Corps achieved wide acclaim largely through its former head, the late Superintendent James T. Keegan.

North Carolina Fire College Largest in History

The 23rd Annual North Carolina Fire College and Drill School, which closed in Charlotte on May 23rd, was the most heavily attended in the history of the institution, according to Fire Chief Donald S. Charles.

The weather was excellent, the sessions all well attended, the curriculum complete. Among the subjects covered in the basic and more advanced courses, were tactics and techniques of fire fighting (with emphasis on the latest improvements); inspections; resuscitation techniques; sprinkler systems; ventilation and forcible entry. Class sessions occupied one and one-half hours.

The committee responsible for this year's program includes: Sherwood Brockwell, Charles L. Burkett, J. C. Fitzgerald, J. L. Croom, A. Y. Cottrell, J. M. Munday, C. L. Cox, and E. M. Salley.

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Couplings—$6.75 per set, attached
2½" DJ CRL fire hose—$1.20 per ft.
Couplings—$9.75 per set, attached
2½" SJ CRL fire hose—$.71 per ft.
Couplings—$7.50 per set, attached

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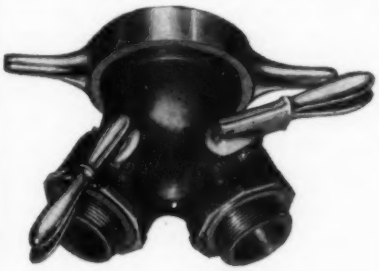

Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

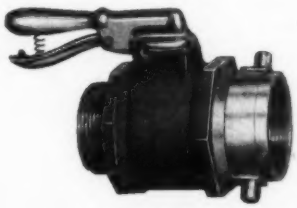

Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

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Convention Dates

July 19-21—"F" ASSOCIATION FOR FORMER U. S. NAVY, COAST GUARD AND MARINE CORPS FIRE FIGHTERS. Annual meeting, Buffalo, N. Y. Secretary-Treasurer, William J. Mignery, 728 W. Marion, Elkhart, Ind.

July 23-27—WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, Morgantown, W. Va. Director, R. E. Hanna, Jr., Fire Service Extension Schools, School of Mines, West Virginia University, Morgantown, W. Va.

July 24-25—WESTERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Mount Morris, N. Y. Secretary, James H. Surridge, Industry, N. Y.

July 30-31—WISCONSIN PAID FIREMEN'S ASSOCIATION. Annual meeting, Marshfield, Wis. Secretary-Treasurer, Robert Madden, 1240 Wolff Street, Racine, Wis.

Aug. 1—NEBRASKA STATE ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Omaha, Neb. Secretary-Treasurer, Warren F. Kensinger, 307 South Pine, Grand Island, Neb.

Aug. 6-7—VIRGINIA STATE FIRE CHIEFS ASSOCIATION. Annual meeting Luray, Va. For information, contact Clay Easterly, Fire Marshal, Box 112, Martinsville, Va.

Aug. 8-10—VIRGINIA STATE FIREMEN'S ASSOCIATION. Annual meeting, Luray, Va. For information contact Clay A. Easterly, Fire Marshal, Box 112, Martinsville, Va.

Aug. 9-10—INDIANA FIREMEN'S ASSOCIATION. Annual meeting, Gary, Ind. Secretary, Dee L. Corbin, P. O. Box 95, Bedford, Ind.

Aug. 14-17—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Grand Rapids, Mich. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass. General Manager, J. E. Jagger, 22 East 38th Street, New York 16, N. Y.

Aug. 14-17—DELAWARE STATE FIRE SCHOOL. Annual meeting, Newark, Dela. For information contact Frank M. Forstburg, Conference Leader, Trainer in Trade and Industry, 511 West 8th Street, Wilmington 43, Dela.

Aug. 16-18—CONNECTICUT FIREMEN ASSOCIATION. Annual meeting, Stamford, Conn. Secretary-Treasurer, John J. Moehring, 51 Rutz Street, Stamford, Conn.

Aug. 19-21—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual meeting, Orléan, N. Y. For information contact Raymond Kenney, 112 Mohawk Street, Cohoes, N. Y.

Aug. 20-23—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, London, Ont. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Aug. 20-25—CENTRAL DISTRICT FIREMEN'S ASSOCIATION OF PENNSYLVANIA. Annual meeting, Lock Haven, Pa. For information contact Lock Haven Fire Department.

Sept. 4-7—MARYLAND SHORT COURSE. Annual meeting, University of Maryland, College Park, Md. Director, Robert C. Byrus, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 5-8—MONTANA STATE FIRE SCHOOL. Annual meeting Polson, Mont. For information, contact Polson Fire Department.

Sept. 10-14—VIRGINIA STATE FIRE SCHOOL. Annual meeting, No. 9 Station, 115 Thole Street, Norfolk, Va. Director, Fire Marshal Clay A. Easterly, Box 112, Martinsville, Va.

Sept. 14-15—JEFFERSON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting and tournament, Philadelphia, N. Y. Secretary, Jack Farrell, 513 Lakeview Drive, Dexter, N. Y.

Sept. 19—FIRE CHIEF EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting. For information, contact Chief John S. A. McAuliffe, Croton-on-Hudson, N. Y.

Sept. 17-20—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Mark Hopkins Hotel, San Francisco, Cal. Secretary, Irvin Schulsinger, 11 West 42nd Street, New York 18, N. Y.

Sept. 28-29—INTERNATIONAL RESCUE AND FIRST AID ASSOCIATION. Annual meeting, Roanoke, Va. President, Julian S. Wise, Box 441, Roanoke, Va.

Oct. 8-12—NATIONAL SAFETY CONGRESS. Annual meeting and exposition, Chicago, Ill. Michigan Ave., Chicago 11, Ill. General Secretary, R. L. Forney, 425 N. Michigan Ave., Chicago 11, Ill.

Oct. 17—FIRE CHIEF EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting. For information contact Chief John S. A. McAuliffe, Croton-on-Hudson, N. Y., President.

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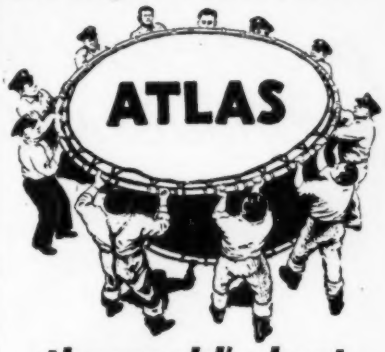

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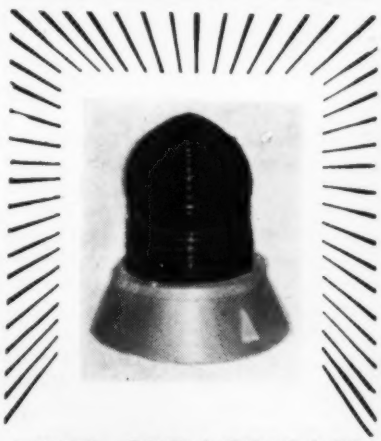

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JULY, 1951

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